Trail Construction and Maintenance Of 16 Miles of the Mountains To Sea Trail Between Balsam Gap and Oconaluftee, Haywood, Jackson and Swain Counties, North Carolina, Between Mileposts 443.8 and 469.3

Environmental Assessment
June 2001

NOTE TO REVIEWERS AND RESPONDENTS

The Blue Ridge Parkway, a unit of the National Park Service, has prepared an environmental assessment (EA) to evaluate the direct, secondary and cumulative environmental consequences of constructing and maintaining 16 miles of the Mountains-To-Sea Trail between Balsam Gap and Oconaluftee (Mileposts 443.8 and 469.3) on Blue Ridge Parkway lands. National Park Service guidelines for compliance with the National Historic Preservation Act and National Environmental Policy Act require an analysis of potential impacts on the proposed activities on historic resources and the human environment and public review of proposed actions and impact analysis.

By this notice the Blue Ridge Parkway is providing the public to respond and comment on the trail proposal and environmental assessment. If you would like to receive a copy of the EA please contact Suzette Ramsey, Environmental Compliance Specialist, at (828) 271-4779 ext. 219. The EA can also be printed from this site as a .pdf file.

If you wish to comment on the environmental assessment, you may mail comments to the name and address below. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. **If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment.** We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Please Address Comments to:
Superintendent
Attn: Mountains To Sea EA
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

RESPONSES DUE JULY 16, 2001

ENVIRONMENTAL ASSESSMENT
FOR
TRAIL CONSTRUCTION AND MAINTENANCE OF 16 MILES OF THE MOUNTAINS TO SEA TRAIL BETWEEN BALSAM GAP AND OCONALUFTEE

Haywood, Jackson and Swain Counties,
North Carolina
Blue Ridge Parkway
Between Mileposts 443.8 and 469.3

United States Department of the Interior * National Park Service

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June 18, 2001

United States Department of the Interior * National Park Service

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PURPOSE AND NEED

The purpose of this document is to evaluate the direct, secondary and cumulative environmental consequences of constructing and maintaining approximately 16 miles of MTS between Balsam Gap and Oconaluftee on Blue Ridge Parkway, National Park Service, United States Department of the Interior lands. A feasibility study conducted by the National Park Service and State of North Carolina, Division of Parks and Recreation has concluded that a trail can reasonably be expected to be established (given the constraints of the natural, cultural, and visual environment) between these two points (Orr and Stutzman, 1997).

National Park Service (NPS) guidelines for compliance with the National Historic Preservation Act (NHPA) and National Environmental Policy Act require an analysis of potential impacts of the proposed activities on historic resources and the human environment.

MANAGEMENT AND PLANNING HISTORY

The Mountains to Sea Trail is being built by volunteers on public lands between Clingman's Dome in Great Smoky Mountains National Park (GRSM) and Jockey's Ridge on the coast of North Carolina. When completed the trail will extend more than 900 miles across the state of North Carolina. This trail started in 1973 when the North Carolina General Assembly passed the North Carolina Trails System Act, and efforts are underway so that one day a complete foot trail will reach across the state, from the Mountains to the Sea.

Approximately 350 miles of the MTS (MTS) will be in western North Carolina along the backbone of the southern Appalachian chain on National Park Service, U.S. Forest Service, Cherokee Reservation, State of North Carolina and privately owned lands. A Memorandum of Agreement, originally signed by the Parkway Superintendent in 1979 and renewed every five years thereafter, committed the Blue Ridge Parkway to this trail-building project.

Of the total amount of trail anticipated in western North Carolina, approximately 300 miles will be established within Blue Ridge Parkway administered lands alone. During the first 20 years of this project, the following segments of Mountains to Sea Trail have been officially dedicated on Blue Ridge Parkway lands:

- 44 miles between Highway 321 in the Boone/Blowing Rock area and Beacon Heights, just south of Grandfather Mountain, and,
- 183 miles between Buck Creek Gap just north of Mt. Mitchell and Balsam Gap west of Waynesville.

One segment still remaining to be established on the Parkway is:

- Approximately 16 miles from Balsam Gap south to Oconaluftee in Great Smoky Mountains National Park.

Mountains to Sea Trail Between Balsam Gap and Oconaluftee Planning History

The EA was made available for public and agency comment on July 1, 1998. The comment period closed on July 31, 1998. A letter announcing the project proposal, transmitting the draft EA, and inviting review comments was sent out to over 63 people/organizations outside the Park. A news statement was released at that time for the media, as well as staff within the Park, that announced the project proposal, notified interested parties where EA copies could be obtained, and invited their review comments.

Phone calls, a petition, 21 letters, park staff testifying at a Jackson County, North Carolina, Board of Commissioners meeting and a meeting in the Superintendent's office with two residents compelled the Park to reevaluate the preferred Parkway Left trail route in one section. The concern was that the preferred alternative would place the trail too close to where residents' properties were located. There were no concerns raised about any of the other proposed trail sections.

In consideration of these valid concerns, the park agreed to abandon the section of proposed trail on Parkway Left where area residents' properties are located. The park is now proposing to locate this section of the proposed trail on Parkway Right, and an analysis of impacts will be provided in this document.

ISSUES AND IMPACT TOPICS

The environmental analysis was prepared in accordance with the regulations of the Council on Environmental Policy Act (CEQ) (40 CFR 1500 et seq.) and in part 516 of the U.S. Department of the Interior's Departmental Manual (516 DM). The National Environmental Policy Act (NEPA) is the basic national charter for environmental protection; among other actions it calls for an examination of the impacts on the components of affected ecosystems. The Parkway Strategic Plan, 2001 NPS Management Policies, DO-12 (Conservation Planning, Environmental Impact Analysis, and Decision-making), DO-28 (Cultural Resources Management), and NPS-77 (Natural Resources Management), among other NPS and park policies, provides general direction for the protection of the natural abundance and diversity of the park's naturally occurring communities.

Various agencies have been contacted and consulted as part of this planning and environmental analysis effort. Appropriate federal, state, and local agencies have been contacted for input, review, and permitting in coordination with other legislative and executive requirements.

This environmental assessment provides disclosure of the planning and decision-making process and potential environmental consequences of the alternatives. The analysis of environmental consequences was prepared on the basis of a need to adequately analyze and understand the consequences of the impacts related to the proposed park developments and to involve the public and other agencies in the decision-making process. In implementing this proposal, the NPS would comply with all applicable laws and executive orders.

Issues and concerns affecting this proposal were identified from past NPS planning efforts, private individuals, environmental groups, and input from other state and federal agencies. The major issues are: conformance of this proposal with the Parkway Strategic Plan, natural resource issues including special status species (threatened and endangered species, water quality, air quality, recreational resources, cultural (historic and archeological) resources, socioeconomic values, and environmental justice.

Impact Topics Included in this Document

Soils:

Proposed activities have potential to impact the soil resource, therefore this topic will be briefly analyzed in this document.

Water Quality:

Alternatives presented and analyzed in this document could affect waters within the park, therefore, water quality will be addressed as an impact topic in this document.

Vegetation:

Proposed activities have potential to impact the vegetation in the project area, therefore vegetation will be briefly analyzed in this document.

Aquatic Fauna:

Trout habitat could be affected from the proposed project, therefore aquatic fauna will be briefly analyzed in this document.

Threatened and Endangered Species:

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.). Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. There are two known federally listed and twenty-two state listed endangered plant species in the vicinity of the proposed project area (see Appendix 1). There are also two known federally listed and seventeen state listed endangered animal species residing in the environment through which the trail alignment is proposed (see Appendix 2). Therefore, special status species will be addressed as an impact topic in this document. Consultation with the U.S. Fish and Wildlife Service would again be conducted before construction to ensure that no newly listed species have been found on site. In a letter dated September 10, 1998, (USFWS Reference #4-2-98-170), the U.S. Fish and Wildlife Service (USFWS) provided a list of concerns for the proposed project that are specifically addressed in this document.

Wildlife:

There is a variety of wildlife within the project area and proposed activities have the potential to impact the wildlife, therefore, this topic will be briefly analyzed in this document.

Cultural Resources:

The NPS is mandated to preserve and protect its cultural resources through the Organic Act of August 25, 1916, and through specific legislation such as the Antiquities Act of 1906, the National Environmental Policy Act of 1969 (as amended), and the National Historic Preservation Act of 1966, NPS Management Policies, the Cultural Resource Management Guideline (DO-28), and the Advisory Council on Historic Preservation's implementing regulations regarding "Protection of Historic Properties" (36 CFR 800). Other relevant policy directives and legislation are detailed in DO-28.

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies having direct or indirect jurisdiction over undertakings consider the effect of those undertakings on properties on or eligible for listing on the National Register of Historic Places and afford the Advisory Council on Historic Preservation and the state historic preservation office an opportunity to comment.

The Blue Ridge Parkway has and will continue to consult with affiliated American Indian tribes to develop and accomplish its programs in a way that respects the beliefs, traditions, and other cultural values of the American Indian tribes who have ancestral ties to the lands encompassed by the park. The necessity for consultations

with American Indians arises from the historic and current government-to-government relationship of the federal government with the American Indian tribes, particularly those that are federally recognized *(Federal Register* 1995 9250-9255), as well as from the related federal trust responsibility to conserve tribal resources. Consultations with American Indians are also required for compliance with a variety of laws and other legal entities, such as presidential executive orders, proclamations, and memoranda; federal regulations; and agency management policies and directives. Examples are the Indian Self-Determination and Education Assistance Act (1975); The American Indian Religious Freedom Act (1978 and as amended in 1994); the Native American Graves Protection and Repatriation Act (1990); National Historic Preservation Act (as amended in 1992); the Presidential Memorandum of April 29, 1994, entitled "Government-to-Government Relations With Native American Tribal Governments; and Executive Order 13007 of May 24, 1996, entitled "Indian Sacred Sites."

The 1992 amendments to the National Historic Preservation Act and the Archeological Resources Protection Act provide means whereby information about the character, location, or ownership of archeological sites, historic properties, and ethnographic sites, including traditional and cultural sites, might be withheld from public disclosure. This provision is especially important in cases where disclosure could risk harm to the resource or impede the use of a traditional site by practitioners.

Project activities have the potential to affect identified and unidentified archaeological resources contributing to the cultural significance of the area surrounding the proposed trail. Therefore, cultural resources are analyzed in this document.

Recreational Resources:

The Outdoor Recreation Coordination Act of 1963 promotes coordination/development of effective outdoor recreation programs. Project activities have the potential to affect recreational resources in relation to trail use by park visitors. Therefore, recreational resources will be discussed.

Visual Resources:

Visual resources could be affected by the alternatives. Therefore, park visual resources will be addressed as an impact topic in this document.

Impact Topics Dismissed from Further Analysis

Air Quality:

Clean Air Act, as amended (42 USC 7401 et seq.). Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations.

The installation or construction of the proposed alternative would present no significant deterioration of ambient air since motorized equipment would not be used. Local air quality may be temporarily degraded by dust generated from construction activities. This degradation would last only as long as construction activities occurred and neither overall park air quality nor regional air quality would be affected. For these reasons, air quality was dismissed as an impact topic.

Noise:

The Noise Control Act of 1972, as amended, sets standards and procedures for limiting noise that jeopardizes Americans' health and welfare. There would be minimal construction-related noise during construction and maintenance of the trail with the use of chainsaws to remove fallen or hazardous trees. No motorized equipment would be used. In the rare instance where a motorized wheelbarrow or other similar equipment would be used to transport materials to the project site, the disruption should not last more than several days. Visitor disruption would be minor. For these reasons, noise was dismissed as an impact topic.

Environmental Justice:

No alternative would have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Draft Environmental Justice Guidance (July 1996). Environmental Justice was dismissed as an impact topic in this document.

Floodplains:

Executive Orders 11988 ("Floodplain Management") require an examination of impacts to floodplains. The 2001 NPS Management Policies, DO-2 Park Planning, and DO-12 (Conservation Planning, Environmental Impact Analysis, and Decision-making) provide guidelines on developments proposed in floodplains. Executive Order 11988, "Floodplain Management," requires all federal agencies to avoid construction within the 100-year floodplain unless no other practical alternative exists. Certain construction within a 100-year floodplain requires that a Statement

Of Findings be prepared and accompany a Finding Of No Significant Impact. No portions of the proposal are within the 100-year floodplain. Therefore, no Statement Of Findings for floodplains would be prepared. Floodplains were dismissed as an impact topic in this document.

Wetlands:

Section 404 of the Clean Water Act (33 USC 1344) requires that the U.S. Army Corps of Engineers issue permits for work affecting navigable waters and wetlands of the United States. Soils, hydrology, and vegetation typical of a wetland environment classify jurisdictional wetlands. No jurisdictional wetlands exist at or near the proposed area of construction for this project. Therefore, this topic will not be addressed in this document.

Prime and Unique Farmland:

Prime or unique farmland is defined as soil that particularly produces general crops as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables and nuts. According to the Natural Resource Conservation Service, there are no prime farmlands associated with the project area. Therefore, the topic of prime and unique farmland was dismissed as an impact topic in this document.

Socioeconomic Values:

The local economy and most business of the communities surrounding the park are based on construction, recreation, transportation, tourist sales, services, and light industry; the regional economy is strongly influenced by tourist activity. There may be short-term benefits to the local and regional economy resulting from expenditures from park visitors accessing the trail, if they stayed overnight. Local and regional businesses would not be appreciably affected in the long-term. Therefore, socioeconomic values were dismissed as an impact topic in this document.

ALTERNATIVES

This section describes two alternatives that are analyzed in this environmental assessment. The two alternatives are (A) no action, (B) construct and maintain a foot trail between Balsam Gap and Oconaluftee (the proposed alternative). This document does not address direct impacts to resources on segments of the trail that will be placed on Cherokee Reservation lands or GRSM lands.

ALTERNATIVE A - NO ACTION

Under the No Action Alternative the MTS foot trail would be terminated at Balsam Gap Maintenance Area. No further actions would be taken to locate the trail on Blue Ridge Parkway lands.

ALTERNATIVE B - THE PROPOSED ACTION

Under Alternative B, a 16-mile foot trail would be established on Parkway lands between Balsam Gap (MP 443) and Oconaluftee (MP 469.3). The proposed trail alignment is located by section on a schematic location map in Appendix 5.

Because the trail would be designed and maintained as a primitive footpath, the following would apply: generally a 24-inch wide tread, unsurfaced native soil tread, grades would not exceed 10%, and no non-native materials used.

Section 1 - Balsam Gap Maintenance Area (MP 441) to Orchard Parking Overlook (MP 444.6) - Approximately 2,500 linear feet (LF) of new trail would follow Parkway Left between Balsam Gap Maintenance Area and the Balsam Gap Access Ramp along the road shoulder. (When traveling south of the Parkway, anything on the right side of the road is considered “Parkway Right;” anything on the left side of the road is considered “Parkway Left”). The trail would then cross the motor road to Parkway Right at the access ramp for 5,500 LF along State Secondary Road, Hood Road (#1465) to Orchards Parking Overlook that would serve as a trailhead.

Section 2 - Orchard Parking Overlook to MP 445.3 - From the overlook, new trail would be constructed for approximately 5,000 LF (Stutzman, 1998), on Parkway Right until the trail intersects Hood Road at grade to connect with Section 3.

Section 3 - MP 445.3 to MP 446.2 - The proposed segment would be placed on Hood Road (shown on Hazelwood USGS 7.5-minute quad) on Parkway Right for approximately 4,000 LF.

Section 4 - MP 446.2 to MP 447.0 - The proposed trail would be established on Parkway Right for 3,500 LF along a contour within Blue Ridge Parkway at a maximum 10% grade.

Section 5 - MP 447.0 to MP 448.3 - A new trail would be constructed on Parkway Right for approximately 6,000 LF. There would be a trailhead constructed at the Cascades Overlook. The proposed trail would follow contours as close as possible and stay at 10% grade or less.

Section 6 - MP 448.3 to MP 448.9 – The trail would follow the Parkway motor road on the left for approximately 2,000 LF reentering the landscape at Section 7.

Section 7 - MP 448.9 to Waterrock Knob - This new section of trail would continue on Parkway Right for approximately 10,000 LF. In addition, as shown in Appendix 5, a connector trail that accesses non-Parkway lands may be established at Waterrock Knob. Approximately 1,000 LF of existing trail would be used to create this connector. The connector trail would use approximately 1,000 LF of existing Parkway trail where it would enter The Nature Conservancy (TNC) lands at Yellow Face and eventually connect with the old Sylva Watershed.

Section 8 - Waterrock Knob to MP 452.5 - This section of trail would continue on Parkway Right for approximately 4,000 LF. There are no known roadbeds in this section so a new trail segment would need to be constructed. The trail would utilize an old loop trail to connect from the existing trail to the top of Waterrock Knob to the ridge. The trail would follow the ridgeline as close as possible.

Section 9 - MP 452.5 to MP 453.3 - This section of trail would continue on Parkway Right for approximately 4,000 LF. There are no known roadbeds in this section.

Section 10 - MP 453.3 to Soco Gap Parking Area (MP 455.8) - The proposed trail would continue on Parkway Right along an old roadbed for approximately 10,000 LF. Once at Soco Gap, the trail would cross the Parkway to the Soco Gap Parking Area. A trailhead connector would be planned at this site.

Section 11 - Soco Gap to Docks Gap (MP 457.8) – The trail would follow the motor road from the Soco Parking Area across the Highway 19 bridge re-entering the landscape and would run on Parkway Left for approximately 10,000 LF. There is no known roadbed in this area; a new trail would have to be constructed. The proposed route would use a series of switchbacks to traverse the 5,000-foot knob. From the knob, the foot trail would descend 200 feet in elevation and run as close as possible to the 4,800' elevation contour to the trailhead at Plott Balsam Overlook.

Section 12 - Docks Gap (MP 457.8) to Big Witch Gap (MP 461.7) - The proposed trail would cross under the Parkway on the Cherokee Reservation Road (dirt road). The trail would continue along this road, on Parkway Right, for approximately 18,000 LF. The trail would cross the Heintooga Spur Road at grade. The road proposed for use is multi-purpose and is maintained by the Cherokee Reservation. It runs in and out of Parkway land.

Section 13 - Big Witch Gap to MP 462.3 - The proposed trail would run along Parkway Left for approximately 3,500 LF. The trail would cross under the Parkway at Big Witch Gap on the existing Cherokee Reservation Road. There is an old roadbed that can be used for this section of trail. All of Section 13 would be on Parkway property.

Section 14 - MP 462.3 to Lookout Tower on Barnett Knob (MP 463.0) - This section of trail would be located on Parkway Left for approximately 1,500 LF. Another 1,500 LF would be on Cherokee Indian Reservation lands. The trail would follow the road up to the lookout tower.

Section 15 - Lookout Tower on Barnett Knob (MP 463.0) to Oconaluftee River - This section of trail would run entirely on Cherokee land on Parkway Left from the tower to downtown Cherokee.

Section 16 - Oconaluftee River Greenway to Oconaluftee Bridge (MP 469.0) - This section of trail would run along the river's edge in a greenway park constructed by the Reservation to GRSM. The trail would exit Cherokee lands near the Oconaluftee River Bridge and use existing trails in the GRSM.

The responsibility for planning, design, and construction of this trail Section 15 & 16 are outside the scope of this trail and EA proposal. Any environmental clearances or direct impact analysis for this section will be the responsibility of someone other than the Blue Ridge Parkway. Therefore, NEPA analysis is only discussed in secondary impact and cumulative effect sections.

Section 17 - Oconaluftee River Bridge to Clingman's Dome - The final segment of MTS would use existing trails within Great Smoky Mountains National Park to reach Clingman's Dome (Stutzman, 1997). No direct impact analysis is included since this is an existing trail. The secondary impacts and cumulative effects are presented.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t] he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally, this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources." (Council on Environmental Quality, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (40 CFR 1500-1508), *Federal Register* Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a.).

After environmental analysis of the alternatives, and based on comments received from the public and state and federal agencies, the environmentally preferred alternative for constructing the 16 miles of MST on Parkway lands was Alternative 2 - this is also the proposed alternative. Alternative 2 would provide the widest range of beneficial uses of the environment without degradation; preserve historic, cultural, and natural resources; provide an environment which supports a variety of individual choice; and finally, to achieve a balance between population and resource use.

ALTERNATIVES CONSIDERED AND DISMISSED

Alternative 1 - Provide Combination Foot and Bike Trail between Balsam Gap and Oconaluftee

Under this alternative, the MTS foot trail would be extended from Balsam Gap to the Orchards Parking Overlook at Milepost (MP) 444.3, Parkway Right. The remaining portion of the MTS to Oconaluftee in GRSM would be established as a bike trail using the Parkway motor road. The Orchards Parking Overlook would be the terminus for the foot trail and the trailhead of the bike trail. The parking area would provide parking for both user-groups. Designating the motor road as a bike trail south of Orchard Overlook would likely increase the bicycle use in this section and potentially increase the conflicts between motorists and bicyclists.

This alternative was dismissed because the vision of the Mountains to Sea Trail is to one day have a complete "foot" trail that would reach across the state, from the Mountains to the Sea.

MITIGATION MEASURES ON THE PROPOSED ACTION

Mitigation measures are analyzed as part of the action alternatives. These actions have been developed to lessen the adverse effects of the proposed action.

NATURAL RESOURCES

General Measures

Should rare plant species or plants growing within the trail corridor be found or become listed on state or federal lists after construction of the proposed segment of trail, the Superintendent shall consider mitigating measures. Should mitigation measures require relocation of the trail, all environmental and archeological requirements applicable to the relocation would be satisfied prior to construction.

No pesticides, herbicides or growth regulating chemicals shall be permitted in the construction or maintenance of this trail since it is located within lands designated as "natural."

No motorized equipment shall be used to construct or maintain the proposed trail unless previously approved by the Superintendent. Hand tools and chainsaws may be used.

Storm-damaged and hazardous trees may be cut and left, as needed to establish the trail bed. Where possible, the cut-end of the bole(s) should not be visible from the trail. If they cannot be moved and are visible from the trail, the cut ends should be scarified with an axe or chainsaw to mimic tree-fall.

Specific Measures

To avoid *Gymnoderma lineare* known to occur at Waterrock Knob, the existing paved trail shall be used.

Route the trail on Parkway Left between Balsam Gap Maintenance Area and the Balsam Gap access ramp.

Retain spruce (*Picea rubens*) and fir (*Balsam fraseri*) trees equal to or greater than 4-inches diameter at breast height to protect this unique habitat and species that use it.

Remove spruce and fir seedlings growing in the proposed trail bed or proposed cut and fill slopes adjacent to the trail and replant nearby within the same watershed.

Conduct at least 2-years of pre-trail sampling of saw-whet owls. (The first year of sampling was conducted in 2000. An additional year of sampling will be required before the proposed trail can be constructed within saw-whet owl habitat.)

Resource management staff shall develop a notice for the Ranger Handbook that explains the impact of overnight use on saw-whets. Resources managers will also include rangers in training about saw-whet owls.

Because the data for saw-whet owls is considered preliminary, at least one additional year of information will be required to build an adequate sample size for analysis.

Route the trail to avoid seepages, wet areas, and moss-covered logs and rocks.

Establish stream crossings at narrow spots in the channel using natural rock material taken from the same cove. Collect rock material for crossings during the spring (April through June) to protect breeding female *Desmognathus santeetlah*.

Scout and move rare land snail (Engraved covert, *Fu monelix*) to nearby rocks immediately before constructing trail bed and associated cut and fill slopes.
Halt construction and consult with Parkway project supervisor if rock outcrops containing moss or liverwort mats are found.

Construct trail bed between July and February to avoid impacts to breeding birds.

Route the trail away from rhododendron and other shrubs where possible to protect shrub-nesting birds. Replant rhododendron that cannot be avoided and must be removed during trail construction within the same watershed

CULTURAL RESOURCES

If previously unknown archeological resources are discovered during construction, all work in the immediate vicinity (600 feet) of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations, including the stipulations of the 1995 *Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.*

All workers would be informed of the criminal penalties for illegally collecting artifacts or intentionally damaging any archeological or historic property. Workers would also be informed of the correct procedures should previously unknown

resources be uncovered during construction activities. Data recovery excavations would be carried out under NPS guidance to mitigate adverse affects as outlined in the section on environmental consequences.

NPS staff or qualified archeological contractors, under an ARPA permit, have already conducted archeological surveys to identify resources in the area of potential effect of the project. As determined by these archeological surveys, data recovery excavations have been completed under NPS guidance to mitigate unavoidable adverse effects to identified sites. After the project is underway, should unknown buried resources be located, the project will be halted and additional data recovery excavations would be undertaken. These subsurface survey and data recovery efforts would be guided by a project-specific research design either developed directly by NPS or at least approved by NPS. Additionally, the NPS would begin consultations under the Native American Graves Protection and Repatriation Act in the event that buried human remains and/or burial objects are discovered during archeological excavations or project development.

The Superintendent would notify Parkway staff when work could be restarted.

The MTS development must be located sufficiently away from the area of the historic Browning Cabin.

VISUAL RESOURCES

All materials used for trail construction shall be of native materials or materials that will weather gray or materials that are gray in color.

Crossings of the roadway shall be kept to an absolute minimum and shall be aligned such that they are minimally visible from the roadway.

Any crossings requiring trail markers shall be of the standard MTS design.

AFFECTED ENVIRONMENT

PARKWAY-WIDE OVERVIEW

The Blue Ridge Parkway follows the high crests of the central and southern Appalachians for 469 miles from Shenandoah National Park in Virginia to the Great Smoky Mountains National Park in North Carolina. Its breathtaking scenic beauty, unbridled natural resources, and unique historic sites make it the showpiece rural parkway of the National Park Service. But the Parkway is also notable as a remarkable landscape architecture and engineering achievement.

Design of the Parkway began in 1934. More than 50 years in the making, the Parkway was completed in 1987 with the construction of a 7.5-mile section around the rugged and winding terrain of Grandfather Mountain.

The Parkway intersects three mountain provinces (ridge, plateau, and highlands) and extends almost 4 degrees in longitude and 2½ degrees in latitude, the third largest geographic range of any unit in the national park system. Yet, despite this extent, its width averages only 800 feet wide between developed areas.

The Parkway occupies 88,000 acres of lands within the socio-political boundaries of two states, six congressional districts, 12 counties in Virginia, 17 counties in North Carolina, 185 miles within four national forests, 11 miles within the Qualla Boundary Reservation of the Eastern Band of Cherokee Indians (Cherokee Indian Reservation), two state parks, nine watershed basins, a dozen municipal watersheds, and three metropolitan areas. There are more than 1,200 miles of boundary and 4,500 adjacent property owners. Three interstates, 270 secondary roads, and 400 utility lines bisect natural features. Like beads on a necklace, 900 vistas, 275 paved overlooks, 18 recreational areas, 14 backcountry areas (ranging from 1,000 to 5,000 acres), and 13 maintenance facilities line the Parkway to accommodate visitors. With annual use approaching 20,000,000 people, it is the most highly visited unit in the National Park System.

Parkway natural resources include 400 miles of streams with at least 150 headwaters, 1,250 vascular plants species (50 rare or endangered), six rare or endangered animals, a variety of slopes (mostly steep) and exposures, possibly 100 different soil types, an elevation range of 5,700 vertical feet, and 100 exotic plants. The Parkway also bisects 47 natural heritage areas, which includes more than half of the high-elevation wetlands known in North Carolina.

The primary activity is recreational driving, sight seeing and hiking. The Parkway also provides naturalist walks and talks, self-guided nature trails, roadside exhibits, picnicking, and camping.

PISGAH DISTRICT OVERVIEW

The 165-mile Pisgah District is bound on the northern end by Grandfather Mountain, a privately owned biosphere reserve, and at the southern end by Great Smoky Mountains National Park. The district is almost entirely surrounded by U.S. Forest Service lands, providing distant views of undeveloped mountain slopes and ridges. The Asheville City/Buncombe County metropolitan area bisects the district with a population center with more than 250,000 people. Several small towns whose primary economy is light industry also occur along its length.

PROPOSED PROJECT AREA OVERVIEW

NATURAL RESOURCES

The proposed project area is located south of Asheville, North Carolina and west of Waynesville and Maggie Valley, North Carolina, in Haywood, Jackson and Swain Counties between Blue Ridge Parkway Mileposts 443 and 469.9; Hazelwood, Addie, Tuckaseegee, Sylva North, Bunches Bald, and Smokemont 7.5-minute USGS topographic quadrangle maps.

Topography/Soils:

Soils in this area are located on steep slopes. Elevation ranges from 3,630 to 5,718 feet. They are highly variable, deep mineral soils over gneiss and migmatite rock with thick organic layers to shallow, seepy, wet mesic. Upland soils in series Burton, Porters, Ashe and Tusquitee, Cullasaja-Tuckaseegee.

Water Resources:

The project corridor contains numerous headwaters and tributaries, most of which contain pristine wild brook trout fishery. There are no designated floodplains or wetlands in the proposed area of construction for this project, however there are several seepages and wet boulder fields to be crossed.

Plant Species:

The overstory vegetation in the area of the proposal is a mixed eastern hardwood forest containing mostly:

Quercus coccinea	*Tsuga canadensis*	*Fagus grandifolia*
Quercus alba	*Quercus rubra*	*Robinia pseudoacacia*
Quercus montana	*Quercus velutina*	*Betula alleghaniensis*
Carya glabra	*Abies fraseri*	*Aesculus flava*
Picea rubens	*Prunus serotina*	*Oxydendrum arboreum*

The understory is predominantly:

Acer pensylvanicum	*Sassafras albidum*
Kalmia latifolia	*Rhododendron maximum*
Cornus florida	*Rhododendron catawbiensis*

There are two known federally listed and twenty-two state listed endangered plant species in the vicinity of the proposed project; see Appendix 1.

During preliminary botanical and vegetation community surveys conducted in the mid-1990s, Dr. Dan Pittillo, Biology Professor, Western Carolina University, identified several significant plant and animal communities within the proposed project area: *High Elevation Rocky Summit (HIEL), Rich Cove Forest (RICO*), *Red Spruce—Fraser Fir Forest (REFR), Heath Bald (HEBA),* and *Chestnut Oak Forest (CHOA).*

Animal Species:

The Parkway through this area supports a variety of wildlife species. Major species include bear, deer, birds, bobcats, foxes and squirrels with smaller numbers of rabbits, skunks and raccoons. There are two known federally listed and seventeen state listed endangered animal species residing in the environment through which the trail alignment is proposed (see Appendix 2).

Site-specific environments are discussed in more detail and by section in "Trail Section Impacts."

CULTURAL RESOURCES

The area south of Balsam Gap to Oconaluftee is an area potentially rich in pre-historical cultural resources, which are those cultural resources related to the occupation and habitation of the area by American Indians. There are also pockets of historic cultural resources, those related to European settlement and later occupation of areas by generations of Americans and foreign immigrants. In May 1998 archeologists of the Southeast Archeological Center, NPS, completed an archeological survey of the proposed Balsam Gap to Soco Gap extension of the Mountains to Sea Trail. These archeologists also completed a literature search and review of the North Carolina State Historic Preservation Office archeological database for known archeological sites in the area. This search located one site (31JK153) near Soco Gap, a late Archaic/early Woodland period campsite, which has been impacted by road construction. Based on their field survey and review of the existing written database, the archeologists determined that there were no archeological resources, either pre-historic or historic, which would be affected by the proposed construction of the Mountains to Sea Trail.

There are other cultural resource management concerns in the development of this particular section of the Mountains to Sea Trail. As the trail nears Soco Gap, a few hundred feet north on Parkway Right, the 1930's vintage Browning Cabin is tucked in the woods close to the Parkway. The Browning Cabin is part of the Davey Farm complex of buildings, all the rest of which are across the Parkway on Parkway Left. The Browning Cabin is in need of considerable rehabilitation, including complete reconstruction of its failing foundation and floor supports as well as rebuilding of

the poorly designed bathroom and kitchen additions. It is not a structure to which the public trail hiker should be invited to use or be tempted to use because of its close proximity to the trail. Therefore, it is vital for the preservation of this cultural resource as well as for public safety that the new MTS section is located as far away from the Browning Cabin as is possible.

VISUAL RESOURCES

The visual environment that the trail passes through is primarily a forested mountain landscape with some of the highest ranges in terms of elevation in western North Carolina. The elevation encountered along the proposed alignment allows for many panoramic, long distant views of multiple ridges. These ridges in the background often provide the layering effect of decreasing hues of blue. Based on preference studies of Parkway visitors, these types of views are the most preferred after views of moving and still water (pg. 40, Identifying and Mapping Critical views of Blue Ridge Parkway Vistas, Hammett and Patterson, 1991).
In the middleground of these scenes, multiple series of ridges provide a great amount of layering. While most of these ridges are in private ownership, the evidence of human development in terms of logging and housing development is scarce. Exceptions to this condition can be found in the Balsam Gap vicinity of the trail. Several homes are visible from the roadway as the nearby town of Waynesville continues to attract retirees and people who wish to build vacation homes. So far, these homes are at density on middleground ridges that they are not adversely affecting the visual experience of visitors (pg. 7, Valuing Scenic Beauty: A Pilot Study on the Blue Ridge Parkway, Susan Kask, Ph.D., 1998).

In the foreground of views along the proposed trail, the visual resources are primarily a forested side slope with mature vegetation growth. The visual environment changes with elevation as the plant communities change. At Balsam Gap up through Section 3 and Section 5, the visual environment is fairly consistent. The forest is primarily oak with a consistent overhead canopy. Undergrowth varies with the exposure of the slope. North facing slopes have more rhododendron and mountain laurel, sometimes very thick, creating a tunnel. On southern exposure, the understory growth is more sparse and open. Some streams would be crossed and there is increased variety provided by the movement of water and the unique plant communities found in wet areas. Section 4 is different in that it goes through the same type of environment but follows an existing gravel road. This road does not provide any views out from the forest. At Section 6, the visual environment changes dramatically as the trail is proposed to go along the road shoulder. Long distance middleground and background views would be experienced along this section. The roadway and occasional cars would be seen in the foreground along with spectacular displays of pinkshell azalea and other flowering plants that flourish in the direct sunlight provide by the presence of the roadway.

Sections 7, 8 and 9 are very similar in visual experience as the trail climbs in elevation and descends from Waterrock Knob. These high elevation sideslopes are very dry and have thin soils. As a result, they do not support a great amount of vegetation. There are trees and some undergrowth, but they are all stunted in height due the climatic extremes. Fir is encountered in some locations.

For Sections 10 and 11 the visual environment would be very similar to Sections 1, 2, 3 and 5, except that no watercourses would be crossed and the proposed trail would cross Highway 19 at Soco Gap on the Parkway bridge.

For Sections 12, 13, 14 and 15, the visual experience would be very similar to Section 4. The trail would primarily follow existing gravel roads located on the Cherokee Reservation. The are no views out from these roads. Hikers might experience some vehicles on the road, but this experience would be rare in that the roads do not receive much vehicular traffic. However, the Cherokee are proposing mountain bike trails on these roads, so there could be encounters with mountain bikes by hikers.

RECREATIONAL RESOURCES

Recreational resources within the project area are limited. The only hiking trail is located at the Waterrock Knob Overlook. This trail is located from the overlook itself to the top of the knob. This half-mile trail is very difficult due to the steepness of the trail and the elevation. Also located at this overlook is a newly renovated picnic structure, which now serves as a visitor center. Public restrooms and drinking water are provided here.

The other form of recreation is scenic viewing. Both long distance views of the Blue Ridge and Balsam Mountains can be seen from the roadway and from the parking overlooks constructed along the road. At Waterrock Knob, a nearly 360 degree panoramic view can be had that looks at not only the Blue Ridge, but the Balsam Mountain Range, the Great Smoky Mountains, Great Smoky Mountains National Park, the Cherokee Reservation and lands in South Carolina, Georgia and Tennessee. Along the same roadway, beautiful seasonal color can be found from the blooms of the pink shell azalea, rhododendron, mountain laurel, pieris and a number of herbaceous plants that bloom from spring to summer. In fall, the changing colors of the leaves provide additional interest.

Outside of the Blue Ridge Parkway property, there is still limited access to outdoor recreation activities. The Nantahala Forest is designated next to the Parkway in many areas, but little property is actually owned by the Forest Service. Hence, there is no public access to hiking trails. The City of Sylva is constructing a trail system inside their watershed and hopes to connect this trail system to Waterrock Knob, a distance of approximately 3 miles. The Cherokee are planning on

developing some recreation on their existing road system, but this is primarily for mountain biking, and they are examining charging fees. A campground is being developed on the Cherokee Reservation along the Heintooga Spur Road. This campground is a primitive experience as there are no hook-ups for electricity, water or sewer. At the end of Heintooga Spur Road, approximately 9 miles from the proposed trail, Great Smoky Mountains National Park operates a campground. Additional trails and campgrounds can be found inside the park near the Oconaluftee Visitor Center, which is inside the park as well. Some RV campgrounds are available in Cherokee and Waynesville.

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The National Environmental Policy Act (NEPA) requires that environmental documents disclose the environmental impacts of the proposed federal action, reasonable alternatives to that action, and any adverse environmental effects that cannot be avoided should the proposed action be implemented. This section analyzes the environmental impacts of the two alternatives for the construction and maintenance of approximately 16 miles of MTS on Parkway lands on natural resources (vegetation, wetlands, special status species, water quality), cultural resources, recreational resources, and visual resources. This analysis provides the basis for comparing the effects of the two alternatives. The intensity and duration of the impacts, mitigation measures and cumulative impacts were assessed in considering the impacts.

METHODOLOGY

The NPS based impact analysis and conclusions in this documentation on the review of existing literature and park studies; information provided by experts within the National Park Service, US Fish and Wildlife Service, the US Army Corps of Engineers, and other agencies; and professional judgments of park technical experts.

Thresholds of Change

Intensity

The thresholds of change of an impact are designated as intensity and duration. For the purposes of this analysis, intensity or severity of the impact is defined as follows:

- Negligible-impact to the resource or discipline is barely perceptible and not measurable and confined to a small area.

- Minor-impact to the resource or discipline is perceptible and measurable and is localized.
- Moderate-impact is clearly detectable and could have appreciable effect on the resource or discipline.
- Major-impact would have a substantial, highly noticeable influence on the resource or discipline.

Duration

The duration of the impacts in this analysis is defined as follows:

- Short term-impacts are those that occur during implementation of the alternative, including construction activities.
- Long term-impacts would extend beyond implementation of the alternative and would likely have permanent effects on the resource or discipline.

CUMULATIVE IMPACTS

A cumulative impact is described in regulations developed by the Council on Environmental Quality (CEQ), 40 CFR 1508.7. A "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over a period of time.

Cumulative impacts were determined by combining the impact of the construction of the MTS alternatives with potential impacts of other past, present, and reasonably foreseeable future actions. Past actions include approximately 227 miles of segments of Mountains To Sea Trail previously built on Blue Ridge Parkway lands. When completed, approximately 350 miles of the MTS will be in western North Carolina with approximately 300 miles established within National Park Service lands.

Therefore, it was also necessary to identify other ongoing or foreseeable future projects within the Blue Ridge Parkway and the surrounding region. The projects identified include the City of Sylva's plan to construct a trail system inside their watershed and with hopes to connect this trail system to Waterrock Knob. The Cherokee are planning on developing some recreation on their existing road system, but this is primarily for mountain biking, and they are examining charging fees. A campground is being developed on the Cherokee Reservation along the Heintooga Spur Road. At the end of Heintooga Spur Road, approximately 9 miles from the proposed trail, Great Smoky Mountains National Park operates a campground.

Additional trails and campgrounds can be found inside the park near the Oconaluftee Visitor Center, which is inside the park as well.

Cumulatively, these ongoing actions could result in a major long-term adverse impact to the Mountains To Sea Trail organization and trail users if this section of trail is not built. However, the proposed action will provide hikers with additional trails to hike and allow the MTS organization to continue their pursuit of a trail system from the mountains to the sea while reducing the impacts to negligible long-term biotic effects, negligible short-term effects on threatened or endangered species, minor short-term off-trail effects, and major long-term positive effects on visitor services.

OVERVIEW OF IMPACTS

The principal impacts, including the unavoidable impacts, of the two alternatives would be as follows:

Alternative A – No Action

Under the No Action Alternative, no trail would be constructed or established. No planned recreational activities would occur. The goal of the State Trails Program, to establish a multi-use trail from western to eastern North Carolina, would not be realized.

A less controlled, more indiscriminant use of lands would continue to occur. There would be some potential impact, adverse or otherwise, to natural, cultural, or archeological and visual resource qualities with the continuing indiscriminant use of NPS lands.

No additional trail recreational resources would be provided south of Balsam Gap.

Alternative B – Proposed Action

Under this alternative, approximately 44,500 linear feet (8.4 miles) of new trail would be constructed and approximately 41,000 linear feet (7.8 miles) of existing roadbed/trails would be used. Because the trail would be designed and maintained as a primitive footpath (generally a 24-inch wide tread surface), the proposed alternative would disturb approximately 2 acres (.8 hectares) of soil/vegetation. The proposed trail would cross five overlooks, seven streams, and five natural heritage areas. Trailhead spurs would be constructed and established at Orchards, Cascades, Waterrock, Soco and possibly Heintooga and Big Witch Parking Overlooks to provide visitor access to MTS.

The expected impacts of this alternative on natural resources of the Parkway would be minimal. There would be no noticeable long- or short-term direct effects on soils, vegetation, topography, aquatic fauna, wildlife, water quality, air quality, noise levels, cultural or archeological resources, visual qualities, or other recreational activities. Although the footpath would cause local disturbance of herbaceous plants, the impact is considered minimal. Because no large trees would be removed, the overstory canopy would remain intact. The proposed route would incorporate good trail design to protect resources from long-term damage. Existing vegetation would be used to screen the trail to eliminate/reduce crosscutting.

Professional archeologists of the NPS have determined that the development of this section of the MTS would have no effect on archeological resources, either pre-historic or historic. There is a potential adverse effect on the Browning Cabin by locating the new trail section too close to this historic structure. It is imperative that the new MTS sections bypass or be located as far as possible from the Browning Cabin.

The trail would provide hikers with additional trails to hike and allow the MTS organization to continue their pursuit of a trail system from the mountains to the sea. As a part of this trail system being realized, there is the opportunity for open spaces adjacent to the Blue Ridge Parkway and the MTS to create an interconnected trail system. As this trail system grows, there is the increased potential for additional areas of land to be set aside as open space through the development of a formal recreation system. One such event has already occurred in Sylva, North Carolina. The community has decided to try and preserve its defunct watershed as a recreation area by the creation of trails. This open space is near Waterrock Knob on the Blue Ridge Parkway. It is the hope of the group trying to preserve the watershed as open space that interconnecting the two trail systems will lead to increased use. With increased use will come increased awareness as to the importance of preserving open space.

TRAIL SECTION IMPACTS

Alternative A – No Action

There would be no direct impact to natural resources since a trail would not be constructed. Indiscriminant use of primitive areas would continue to occur.

Parkway cultural resources would not be impacted since no new development would be planned under this alternative.

Parkway visual resources would not be impacted since no new development would be planned under this alternative.

No additional trail recreational resources would be provided south of Balsam Gap since a trail would not be constructed.

Alternative B – Proposed Action

Specific impacts, natural resource issues and concerns are discussed by proposed sections (See Appendix 3).

Since none of the Parkway's historic buildings are in the vicinity of the proposed project and no archeological resources exist in the proposed project site, the construction and maintenance of a new segment of trail would not adversely affect any cultural resources potentially eligible for the National Register.

The visual impacts to the Parkway would be greatest at those points where the trail crosses the roadway at grade. These crossings have been kept to an absolute minimum, but there would be three at grade crossings. Two of these are associated with trailheads. Where the trail crosses the roadway at grade, the trail would be aligned such that there are no long distance views to the trail from the roadway. In addition, any trail markers shall be located such that they are as least visible as possible to motorists while still serving their required function for hikers as referenced in Director's Order 52C: Park Signage. There may be some increase in vehicles parked at overlook trailheads. There are already cars parked here, so they should not detract from the existing visual resources. Also at these trailheads, there may be a trail system sign installed. Once again, these signs will be consistent with existing designs on the Parkway and Director's Order 52C.

Section 1: Balsam Gap Maintenance Area to Orchard Parking Overlook

Environment - This area is a mixed hardwood forest with soils of circumneutral chemistry. Canopy species include *Quercus velutina* (black oak), *Q. alba* (white oak), *Liriodendron tulipifera* (tulip poplar), *Robinia pseudo-acacia* (black locust), *Carya tomentosa* and *ovalis* (hickories) and an understory of *Cornus florida* (dogwood), *Acer rubrum* and *pensylvanicum* (red and striped maple). The herbaceous layer contains one federally listed species and three state listed plant species within the vicinity of the proposed project. There are no known stream crossings or wetlands in the proposed area. This segment is located within the Balsam Gap Natural Heritage Area, 100 acres designated as nationally significant because it contains federally endangered and special status plant species.

Impacts - This section of trail has been field reviewed for specific alignment and impacts to natural resources. The proposed trail has been flagged and routed to specifically avoid the known federally- and state listed plant species (Pittillo, 1995) that support the Natural Heritage Area status. NPS trail design standards

(Director's Order #45-1) can be met (Orr, 1998). No additional disturbance would be required to make this a trailhead, since sufficient parking is available at Orchard Parking Area.

Section 2 - Orchard Parking Overlook to MP 445.3

Environment - This area is a mixed hardwood forest with soils of circumneutral chemistry. The canopy species, subcanopy and herbaceous layer are the same as Section 1. There are no known stream or wetlands in this section.

Impacts - The 5,000 LF of new trail have been flagged through this section to avoid federally- and state listed endangered plant species that were observed during field surveys (Pittillo, Jameson 1997), and NPS trail standards can be met (Orr, 1997).

Section 3 - MP 445.3 to MP 446.2

Environment - The canopy and sub-canopy species are the same as Section 1 mentioned previously. No rare species, wetlands or resource concerns are known.

Impacts - Although three rare plants species are known to occur within this section/corridor, they would not be adversely impacted since no new trail is being constructed. The existing state maintained dirt road (#1465) does not come in close proximity to any of the three plant species (Pittillo, 1997). The roadbed alignment and grade meets NPS standards as found in Director's Order #45-1 (Orr, 1997).

Section 4 - MP 446.2 to MP 447.0

Environment - This plant community is classified as Northern Hardwood Forest and Acidic Cove Forest and is adjacent to Woodfin Creek. Species include *Aesculus flava* (yellow buckeye), *Acer saccharum* (sugar maple), *Tilia americana* (white basswood), *Betula lenta* (sweet birch), Betula *alleghaniensis* (yellow birch), *Fagus grandifolia* (American beech), and *Tsuga canadensis* (eastern hemlock) with a dense understory of *Rhododendron maximum* and *R. catawba*. The soils are various upland soils, shallow and wet. Two major drainages that are headwaters to Woodfin Creek (10 feet wide) and Woodfin Falls (10 feet wide) are present in this section. Also, Woodfin Falls Natural Heritage Area (68 acres), designated as regionally significant for its rare species and habitat, is located within this section. The herbaceous layer contains three state listed species and another unlisted species unique and rare to this area. Two rare bird species and one aquatic insect are known to occur in this section.

Impacts - Since no roadbed exists within this section, 3,500 LF of new trail would need to be constructed. The trail location would be reviewed for presence of federal- and state listed plant species prior to construction, and the trail would be routed to

avoid any species identified. Should the proposed trail cross either of the two headwaters to Woodfin Creek and Woodfin Falls, the crossing(s) would be designed so as not to impede or prohibit brook trout movement or adversely impact the rare aquatic plant or insect. In general, rocks from the site would be placed in the streambed to form a trail crossing. The rocks to be moved would be taken from within the same cove and placed above water level in the same streambed. No bridges or spanning structure(s) would be installed. Bird species should not be adversely impacted since no canopy trees would be removed that could affect nesting.

Section 5 - MP 447.0 to MP 448.3

Environment - This section has a history of disturbances from logging, fire, insect infestation and current development. A small heath bald opening occurs in this section. Canopy species include remnant *Abies fraseri* (fraser fir) stands, *Picea rubens* (red spruce), *Betula alleghaniensis* (yellow birch), *and Fagus grandifolia* (American beech). The understory is dense rhododendron, *Viburnum alnifolium* (hobblebush) and *Vaccinium erythrocarpon*, and bearberry. The soils are acidic and organic with rocky outcroppings breaking up the forest canopy. This section is part of the Mount Lyn Lowry-Campbell Creek Natural Heritage Area (150 acres) and contains six endangered plant species and four rare animal species within the proposed project area.

Impacts - 3,500 LF of new trail would need to be constructed in this section. Before the trail would be built, a proposed trail alignment would be flagged and a plant survey would be conducted. Based on preliminary knowledge of the site, it appears that the proposed trail could be rerouted if any rare species were found (Pittillo, 1997). Chris McGrath, non-game biologist for North Carolina Wildlife Resources Commission (NCWRC), believes that habitat fragmentation or barricades created by constructing, using, and maintaining the trail would not adversely affect the four animal species known to occur within this section.

Section 6 - MP 448.3 to MP 448.9

Environment - This section is within the Mt. Lyn Lowry-Campbell Creek Natural Heritage Area. This area contains six listed endangered species.

Impacts - Approximately 2,000 LF would need to be constructed since no existing roadbeds or trails occur through this section. This route has been flagged and reviewed extensively by Dwayne Stutzman, MTS Coordinator; Will Orr, former Resident Landscape Architect; and Cliff Northrop, Parkway Civil Engineer. Because this area is prone to slope failure, the original route was moved down slope to the Parkway motor road shoulder. The trail would follow the road shoulder until it reenters the landscape at Section 7. Because the terrain through this section is

very rocky and rugged, a special crew would be required to move rock to create the trail. No explosives would be used. A set of stone stairs may be required to enter and exit to the motor road shoulder.

A plant survey would be conducted prior to establishing and constructing this site, and the trail would be routed to avoid rare plants and shrubs. Since there is no stream to cross in this section, the rare aquatic insect would not be impacted. Rare and unique birds would not be adversely impacted since no canopy trees would be removed. Likewise, since there would be no appreciable loss of tree canopy, animals that rely on the canopy for movement, cover, and/or nesting would also not be adversely impacted. Since the trail would be used primarily during the day, nocturnal mammals should not be adversely impacted. Terrestrial beetles that hide and nest in leaf litter could be impacted by establishment and maintenance of the trail, but the impact would be short-term since populations, if they are reduced during construction, would return to normal within a short period.

Section 7 - MP 448.9 to Waterrock Knob

Environment - Several different types of habitat are located in this section. Montane Acidic Cliff habitat with cliffs and large standing boulders are located at the highest elevation. Further down the slope red spruce-Fraser fir forest is found, possessing a small remnant of Fraser firs, which have survived the balsam woolly adelgid infestation. As elevation decreases, Northern Hardwoods Forest increases with species of yellow birch, beech and buckeye. In the areas opened up by fire, heath/grass balds have been created with *Prunus pensylvanica* (fire/pin cherry), *Rhododendron catawbiense,* and *Rubus* spp. (blackberries) dominating. Part of this area is within the Waterrock Knob Natural Heritage Area (57 acres) and Mount Lyn Lowery-Campbell Creek Natural Heritage Area (150 acres). There are six listed species within the project area. There are two headwaters for Scott Creek (8 feet in width) and North Fork Creeks (approximately 8 feet in width), which are known areas for brook trout.

Impacts - This section has been flagged and reviewed for impacts to natural resources. The trail was relocated to avoid listed species and no other significant impacts were noted in this section (Pittillo, Jameson 1996). No significant impact would occur to the listed wildlife species from the trail being built (McGrath, pers. conversation, 1998). The terrain through this section is very rocky and rugged and would require special crews to move rock to create the trail. No explosives would be used.

Section 8 - Waterrock Knob to MP 452.5

Environment - The habitat in this section is the same as that listed for Section 7. The beginning of this area is in the Waterrock Knob Natural Heritage Area. There are six listed species within the project area and no known significant water resources. Because the terrain is extremely steep through this section, it would be the most difficult section in which to construct a trail.

Impacts - Although this segment has not been reviewed for threatened or endangered species, the trail alignment would be flagged and a plant survey would be conducted. No impact to listed wildlife species is known to occur (McGrath, pers. conv., 1998) since the canopy would remain intact and no additional light gaps would be created. Many of the species of concern are also nocturnal and should not be adversely impacted by a primarily day-use trail. Rock outcrops that harbor plants and animals of concern would also be avoided.

Section 9 - MP 452.5 to MP 453.3

Environment - As elevation decreases Northern Hardwood species take over again, *Betula alleghaniensis* (yellow birch), *Fagus grandifolia* (American beech), *Aesculus flava* (yellow buckeye), intermixed with *Picea rubens* (red spruce) and *Abies fraseri* (Fraser fir) along the ridge and *Tsuga canadensis* (eastern hemlock) in the coves. The understory ranges from dense rhododendron thickets to sparse open grass sections. Other understory species include *Acer pensylvanicum* and *A. spicatum* (striped and mountain maple), *Cornus alternifolia* (alternate-leaf dogwood), *Vaccinium* spp. (blueberries), *Viburnum alnifolium* (witch hobble) and *Sambucus pubens* (red elderberry). There are two rare wildlife species and no known rare plant species. Water resources consist of small drainage streams and seeps.

Impacts - This section has not been flagged or reviewed for threatened and endangered species. Before the trail is built, a trail alignment would be flagged and a plant survey would be conducted. There is a possibility of old trails in this area that could be used to reduce the total amount of disturbance through the birch forest. The two listed wildlife species would not be adversely impacted by construction of a trail (McGrath, pers. conv., 1998). Preliminary field reconnaissance indicates fairly easy terrain and no specialized rock moving or step building would be needed.

Section 10 - MP 453.3 to Soco Gap Parking Area (MP 455.8)

Environment - Oaks begin to dominate the canopy, *Quercus montana* (chestnut oak), *Q. rubra* (northern red oak), *Q. alba* (white oak), *Q. coccinea* (scarlet oak) intermixed with Tsuga *caroliniana* (eastern hemlock), *Acer rubrum* (red maple), *Liriodendron tulipifera* (tulip poplar) with an understory of Rhododendron thickets. The soils become dryer and acidic. The headwaters for Soco Creek (approximately 3 feet wide) begin in this section and merge near the gap. The trail would be adjacent to the Fed Cove Natural Heritage Area (10 acres), one of the few remaining old growth Chestnut Oak Forests. There are two state wildlife species listed and no known plant species.

Impacts - The trail would follow an existing roadbed, so only minor improvements would be needed to improve the tread. Although the road borders the Fed Cove Natural Heritage Area (that may be expanded in the future to include the proposed trail corridor), no known adverse impacts are foreseen. There are two state listed wildlife species in the area but no known impact from use of the trail is anticipated since large trees forming the canopy would not be removed.

Section 11 Soco Gap to Docks Gap (MP 457.8)

Environment - *Quercus alba* (white oak), *Q. montana* (chestnut oak), and *Q. rubra* (northern red oak) dominate the canopy. Other canopy trees are *Tsuga canadensis* (eastern hemlock), *Robinia pseudoacacia* (black locust), *Betula alleghaniensis* (tulip poplar) and *Acer rubrum* (red maple). The understory consists of *Rhododendron maxium* and *R. calendulaceum, Ilex montana* (mountain winterberry), and *Kalmia latifolia* (mountain laurel). The gap in the location of Soco Gap Bog (approximately one acre) is a rare high elevation bog, which is one of the headwaters of Jonathan Creek. The herbaceous layer contains two state listed plant species in this section.

Impacts - There would be no impact to the bog because the trail would follow the motor road shoulder until it begins a series of switchbacks to traverse the 5,000-foot knob. Surveys for impacts to plant species would be completed before the trail is constructed to insure no adverse impacts to natural resources or species of concern. Rare animal species would not be adversely impacted since there would be no loss of tree canopy and recreational use would occur primarily during the day. To avoid the really wet areas around and near Jonathan Creek and Soco Gap Bog, the trail has been located along the Parkway motor road shoulder. Consequently, the trail would not cross Jonathan Creek or enter Soco Gap Bog.

Section 12 - Docks Gap (MP 457.8) to Big Witch Gap (MP 461.7)

Environment - The habitats here are similar to Section 10 and 11. Two listed plant species occur in this area. The road/trail follows Wolf Laurel Branch (3 feet wide), a known brook trout stream.

Impacts - Because the trail would follow a maintained Cherokee Reservation road, no additional changes to the environment would be required to establish this section of trail. This segment of trail offers potential for seasonal overnight camping at the Glen Bradley campground (privately owned on Cherokee lands) or at Balsam Mountain Campground (at the end of Heintooga Spur Road and administered by Great Smoky Mountains National Park). Because the trail would be placed on Cherokee Reservation road(s) and Heintooga Spur Road, there would be no crossing of Wolf Laurel Branch.

Section 13 - Big Witch Gap to MP 462.3

Environment - The habitat here is similar to Sections 10, 11 and 12. There are no known listed species and no significant water resources.

Impacts - If the trail follows an old Cherokee Reservation road, then no changes to the environment would be needed. If a new trail were constructed, then this section would be reviewed for threatened and endangered species prior to construction. The trail would be rerouted if rare plants were found. There would be no adverse impact to other vegetation in this section, unless cross-cutting were to occur, which is unlikely due to the steepness of the trail in this area.

Section 14 - MP 462.3 to Lookout Tower on Barnett Knob (MP 463.0)

Environment - There are no known listed species or water resources in this section. The canopy and understory are the same as Sections 10, 11, 12 and 13.

Impacts - The trail would follow a maintained fire tower road to the tower, and no adverse impacts to the environment are expected. No additional plant surveys would be undertaken for this section of trail.

Section 15 - (Cherokee Lands; therefore, not analyzed in this document)

Section 16 - (Cherokee Lands; therefore, not analyzed in this document)

Section 17 - (GRSM lands; therefore, not analyzed in this document)

Impacts to Federally Listed and Federal Concern Species

Gymnoderma lineare (Rock Gnome Lichen)

Gymnoderma lineare was federally listed as endangered on January 18, 1995. This rare lichen is primarily found above 5,000 feet on northern exposed vertical rock faces where water flows periodically---only at very wet times. It prefers sites that are generally open with a moderate amount of light. It can occur on southern and western exposures when there is partial canopy coverage.

G. lineare is known at four locations on the Parkway, one of which is in the vicinity of the proposed project. The Waterrock Knob site is not within the proposed trail corridor. Because the Mountains to Sea Trail in and around Waterrock Knob would use a portion of the existing paved trail to the summit, there would be no need to construct new trail in the vicinity of the rock gnome lichen. Thus, there would be neither direct access nor soil erosion from the trail that could impact the known *Gymnoderma* population.

All remaining segments of the trail have been surveyed by Dr. Dan Pittillo, Western Carolina University, or Alan Smith, Mars Hill College. In particular, Mr. Smith's surveys were made in Sections 2, 4, 5, 8, 9 and 10 and during June and September 1998. Dr. Pittillo's knowledge of the area has come from years of visiting these sites and surveys conducted for the Natural Heritage Program, professional trips, and personal knowledge. No occurrences of *Gymnoderma lineare* were found by either researcher within the proposed trail corridor.

Isotria medeoloides (Small Whorled Pogonia)

Isotria medeoloides was listed as endangered on October 12, 1982. The small whorled pogonia life cycle and habitat requirements are widely varied, but in the southern Appalachians, it typically emerges in April and flowers in late April to mid-May. It occurs on upland sites generally within second- or third-growth mixed-deciduous or mixed deciduous/coniferous forests. Soils are moderately high in soil moisture, highly acidic, and generally nutrient poor. Small whorled pogonia occurs in both young and old forests with relatively open understory, moderate ground cover, and near features that "create long-persisting breaks in the forest canopy" (Recovery Plan, 1992).

I. medeoloides is known to one location on the Parkway. The MTS would be routed to avoid this population by placing the trail on the opposite side of the Parkway motor road. In addition, all segments of the trail have been surveyed by Dr. Dan

Pittillo, Western Carolina University or Alan Smith, Mars Hill College. Dr. Pittillo's knowledge of Sections 1, 3, 6, 7, 11-14 has come from years of visiting these sites and surveys conducted for the Natural Heritage Program, professional trips, and personal knowledge. Alan Smith surveyed Sections 2, 4, 5, 8, 9, and 10 in June and September 1998. No occurrences of *Isotria medeoloides* were found by either professional.

Glaucomys sabrinus ssp. *coloratus* (Appalachian Northern Flying Squirrel)

The Appalachian northern flying squirrel was federally listed as endangered on July 1, 1985 (50 FR 27002). They are nocturnal and are primarily found in moist boreal habitats, especially northern hardwood and spruce-fir forests with down and standing snags. Radio-tracked animals have demonstrated a biphasic activity pattern with peaks between sundown and midnight and 1-3 hours before sunrise (Recovery Plan, 1992). Telemetry in North Carolina suggests that their home range is 2-3 hectares in summer, and during the winter they can cover large areas (more than 30 ha) and move almost a kilometer in a direct line in a few minutes (Recovery Plan, 1992).

Appalachian northern flying squirrels occur on the Blue Ridge Parkway in Sections 5, 6, 7, 8, 9, 11 and 12 (e.g., generally south of Waterrock Knob). Approximately 43,200 feet (8+ miles) of new trail would be constructed above 4,000 feet, with an estimated 5,000 feet within or immediately adjacent to spruce-fir forests.

Within the spruce-fir stands or other forested stands where these species may be scattered, no spruce or fir trees greater than 4-inches in diameter at breast height would be removed. Spruce and fir seedlings that grow in the proposed trail bed or proposed cut and fill slopes adjacent to the trail would be removed and planted nearby, within the same localized watershed. We believe these measures will help protect the spruce-fir community that the squirrel needs to survive, thereby providing adequate protection of northern flying squirrels.

Aegolius acadicus acadicus Gmelin (Northern Saw-Whet Owl)

The northern saw-whet owl is a species of Federal concern. According to one report, an estimated 500 pairs of saw-whet owls may occur in the disjunct southern Appalachian Mountains (Rowe ca. 1997). Home range of birds in the southern Appalachians is somewhere between 73.4 to 250.5 ha 160.8 ha (Rowe ca. 1997). Roosts averaged 4.06 m off the ground with the majority occurring in red spruce/Fraser fir forests mixed with hardwoods and rhododendron understory (Milling et al., ca. 1997). Cockerel suggests that the small mammal availability may be a limiting factor (1997) and Rowe suggests that outdoor recreation may also threaten the owls (Rowe ca. 1997 and 1998).

The northern saw-whet owl is currently not listed as threatened and endangered. Preliminary research indicates that genetic profiles of southern populations are significantly different than its northern counterparts, perhaps warranting designation as a separate sub-species (Rowe pers. comm. 1999). Based on this information, we believe this species could be federally listed in the future (Teague, 1999).

The Blue Ridge Parkway contracted with Tim Milling to conduct a survey of saw-whets within the Plott Balsams on National Park Service lands prior to the trail being constructed. Milling developed a monitoring procedure to assess the population density and distribution of territories in relation to disturbance factors. The first field season was very successful. Results suggest that barred owl activity and extensive night activity by humans, especially residential areas, may discourage saw-whet owls from locating their breeding season territories where these disturbances are present. Since camping is not permitted on any Parkway trail, there should be minimal disturbance from night activity. Rangers would be informed of the impact of humans at night, and random patrols of the area would be made to disband groups that may form. If needed, signs may be posted.

Because the data is considered preliminary, at least one additional year of information will be required to build an adequate sample size for analysis. This work will be conducted in winter/spring 2001/2002. If population trends indicate a significant decline, the National Park Service will re-evaluate the location for this proposed trail and/or initiate consultation with U. S. Fish and Wildlife Service should the species become listed.

Desmognathus santeetlah (Dusky Salamander)

A new species of dusky salamander, *Desmognathus santeetlah*, is located in the Great Balsam Mountain range (Tilley 1981). It occupies headwater streams and seepage areas, where groundwater percolates through mossy rocks, *Impatiens*, nettles and mud. They most often occur above 900m, but have been found as low as 677m (2,220 feet). They have been reported by Tilley to occur on Waterrock Knob in seepage areas of 1829m (6,000 feet) (Tilley 1981). Females breed during the summer, laying their eggs under moss on rocks and logs in seepages. They often remain motionless when uncovered and are easily caught.

Since the trail would be routed to avoid seepages and wet areas, there should be no direct impact of trail construction on the salamander. Stream crossings would be made at narrow spots in the channel using natural rock materials occurring in the area. Rocks used for stream crossing would be collected and installed during the spring to protect breeding females and young that may be living under the rocks.

Fu monelix (Mesodon) *orestes* (Engraved Covert)

The engraved covert, *Fu monelix* (Mesodon) *orestes*, a rare land snail, inhabits the Plott Balsam Mountain range in areas of high elevation and rocky substrates. The Blue Ridge Parkway manages approximately 125 ha. of engraved covert habitat (Boynton 1994). Hubricht described its habitat as crevices in rock ledges at high elevation and on the forest floor around rocks during wet weather. Boynton found the covert snail at Waterrock Knob in 1992/1993 in a very rocky, disturbed Fraser fir forest with low shrubs. The site contained a few large firs and scattered mountain ash (*Sorbus americana*). During his survey, Boynton observed the snails occupying several substrates, including the trail, snags, vegetation and rock, but believed they were more abundant near rock outcrops.

The snail has also been found in other habitats on and near the Parkway, including boulder field forest community, yellow birch/red spruce closed canopy cove/stream community, and a yellow birch open canopy with hobblebush (*Viburnum latanoides*) shading rock outcrops (Boynton 1994). Although very little is known about their ecology, their primary diet is apparently dead and living plant tissue and fungi (Boynton 1994).

While individual snails could die during construction, maintenance and use of the trail from trampling or crushing, there should be no long-term impact to the population. Since these snails are relatively large and easy to detect, trail builders would be required to scout the site and move snails prior to constructing the trail bed and associated cut and fill slopes. We do not anticipate that large boulders or rocks would need to be moved to establish the trail, so there should be no loss of rocky substrate habitat.

*Microhexura montivaga (*Spruce-Fir Moss Spider)

The spruce-fir moss spider was listed as endangered by U.S. Fish and Wildlife Service on March 8, 1995. Its habitat is typically found under a shaded fir canopy in well-drained but damp moss and liverwort mats that grow on rocks or boulders. Forest stands primarily consist of Fraser fir with a few scattered spruce. The species is extremely sensitive to desiccation and require just the right balance of wet and dry.

According to Dr. Fred Coyle at Western Carolina University the habitat required for spruce-fir moss spider is not known to the Blue Ridge Parkway. Dr. Coyle has surveyed the Waterrock Knob area extensively, as early as the mid-1960's and more recently during the 1990's, and has not found the spider. He feels certain they do not exist at Waterrock Knob (Coyle pers. comm. 1999).

For purposes of this project, the trail would be routed away from all rocks and boulders that contain moss or liverwort mats. Specialists would be notified if potential habitats (rocks outcrops in predominantly fir stands) for further investigation.

Impacts to Neotropical Migrants and Other Birds

The primary habitat within the proposed project area is mature second-growth and virgin spruce-fir, northern hardwood, oak forests, and cove hardwoods. Birds that have been observed and are relatively common to these Parkway habitats at the southern end of the Parkway are listed in Appendix 4 (Simpson 1992).

Breeding birds, such as black-throated blue warbler, rose-breasted grosbeak, yellow-bellied sapsucker, veery and other northern hardwood associates should not be adversely impacted by the proposed project since the trail would be installed after breeding season (after June). Birds in spruce-fir habitat, such as the golden-crowned kinglet, magnolia warbler, pine siskin, red-crossbill, olive sided flycatcher, red-breasted nuthatch, brown creeper, should be protected by the proposed project since no spruce or fir trees greater than 4-inches shall be removed. Spruce and fir seedlings growing within the trail bed or immediately adjacent to it (within the toe slopes) would be dug up and replanted nearby.

Golden-winged warbler and ground-nester and the veery, both shrub and ground nesting, should be protected since there would be minimal removal of rhododendron and other shrubs.

Based on preliminary field review, two rhododendron thickets would be traversed by approximately 1,000 feet of trail. Although some rhododendron may be completely removed, most rhododendron would be pruned and thinned. Small rhododendron that would be removed as a result of this project may be replanted in the same watershed to reduce off-trail use, provide screening, or to support other management needs. To protect currently nesting birds, the trail would be installed during non-breeding season (e.g., the trail would be constructed generally between July and February).

Impairment to Resources

The purpose for which the Blue Ridge Parkway is managed is articulated in the 1916 Organic Act establishing the National Park Service. The Organic Act tells us that the purpose is:

"to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The National Park Service may not allow the impairment of park resources and values unless directly and specifically provided for by legislation or by the proclamation establishing the park. Impairment that is prohibited by the National Park Service Organic Act, the General Authorities Act, and National Park Service Management Policies is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Consequently, the proposed alternative conserves values embodied in the Organic Act to:

- Accomplish the mission of the National Park Service.
- Achieve goals of the *Parkway Master Plan* and *Strategic Plan.*
- Prevent impairment of park resources in a manner that meets legal and policy requirements.
- Achieve the purposes and criteria of the following NPS Mission Goals, the Parkway's Mission Goals, and the Parkway's long-range GPRA goals:
    - natural resources are protected to maintain ecological and biological diversity with the abundance of plant and animal species found in the Central and southern Appalachian ecosystem.
    - provide opportunities for visitors to experience the scenic qualities, recreational uses and natural and cultural resources of the Blue Ridge Parkway and its corridor.

Secondary Impacts

Six existing parking/overlook areas would be used for trailhead parking and this could limit available parking for short-term parking for non-trail users. Land areas not directly affected during construction may be affected by off-trail hiking resulting from Parkway neighbors accessing trails via non-designated routes, trail crews short-cutting access to work sites, hikers cutting across switchbacks, and hikers leaving the trail to seek highpoints or other points of special interest to them. These potential off-trail effects should be minimal because of residential patterns, planned trailhead parking, and trail tread location.

With the construction of the trail, there may be increased use and potential demand for connections to the trail. These connections will be evaluated to insure they can achieve National Park Service goals for the protection of natural and cultural resources and that they will be open to the public. In addition, the Blue Ridge Parkway will have to anticipate secondary trail needs and the park's or other partner's capability to maintain these connectors within current workload constraints. Construction of these 16 miles of MTS that will terminate at Cherokee lands may result in more pressure to develop trail Sections 15 and 16.

With the increased use of the trail, there will be increased demands on Parkway rangers to aid trail users who may injure themselves or to patrol areas where illegal activities may occur. These actions should be minimized with a safely designed trail receiving consistent use. Still, there would be an increase on the rangers' workload.

Increases in long distance hiking may cause some off trail use of Parkway lands for overnight camping.

Cumulative Impacts

There are negligible cumulative effects on natural, cultural and visual resources or visitor experience that will occur as a result of implementing any of the three alternatives. This determination is based upon:

1. Of the 88,000 acres of Parkway lands only one tenth of a percent have been affected in the past by trail construction,
2. The only on-going trail work on Parkway lands is limited maintenance of existing trails,
3. The effects of the proposed alternative would only impact four additional acres of Parkway land,
4. The foreseeable future actions could involve an undetermined length of trail to be constructed on Cherokee Reservation lands.

Within the 88,000 acres of federal lands administered by the Blue Ridge Parkway there are 115 individual trail systems with a total of more than 200 miles of trail tread currently available for visitors to hike. These trails directly occupy approximately 100 acres or one tenth of a percent of the federally owned land base. Most trails are a mile or less in length and are accessed from parking overlooks with longer trails being tied into developed recreation areas.

When completed, the 800 mile-long Mountains to Sea Trail will occupy a corridor on Parkway lands some 300 miles in length. Since 1979 some 227 miles of the MTS have been completed across Parkway lands. When the proposed 16 miles of trail from Balsam Gap to Oconaluftee are completed approximately 243 miles of the MTS will be completed. Construction of these 16 miles of trail will increase the amount of NPS lands dedicated to visitor use by a very negligible amount. This trail will now terminate on Parkway land at Milepost 463 leaving several miles of trail to be established on Cherokee Reservation lands. To realize the goal of connecting GRSM with the coast, more trails will be necessary in the future, thus furthering effecting undisturbed lands.

The availability of additional long distance trails to hike such as the MTS will draw more visitors who prefer that kind of experience over the short leg-stretcher trails that dominate the Parkway's trail system. This will increase the access that visitors have to hiking through and viewing the scenic and natural resources of the southern end of the Parkway that are now primarily only available from driving the motor road. This long distance trail will also serve to better distribute hikers over more miles of trails within the Parkway. Access from six trailheads will be established at existing parking overlooks and construction of connecting trails will be required.

Because of minor ground disturbance caused by trail construction involving a 2-foot wide trail that is placed to minimize cutting vegetation more than six inches in diameter at breast height and water bars installed to minimize soil erosion, there will be negligible cumulative effects to the Parkway's resource base caused by construction and use of the MTS. Overall the current trail system when combined with the proposed 16 miles of additional trail will continue to constitute a very minor part of the overall visitor use of Parkway facilities.

The addition of this length of trail should have no impact to the maintenance workload of the Parkway since all construction and volunteer trail clubs performs maintenance activities. These clubs perform their duties in cooperation with the Blue Ridge Parkway.

With the addition of more sections of the Mountains to Sea Trail, there may be an increase in the number of through-hikers--those people hiking long distances of the trail over a period of several days. Currently, the only provisions for camping are at designated campgrounds within the Blue Ridge Parkway or on U.S. Forest Service (USFS) lands. There are no designated campgrounds from Balsam Gap to Soco Gap on the Blue Ridge Parkway. In addition, there are no tracts of USFS land adjacent to the Parkway in this area to provide camping. There is, however, a private campground being developed on Cherokee lands at MP 458 just off of the Heintooga Spur Road. There is also a designated campground at the end of the Heintooga Spur Road in Great Smoky Mountains National Park. Trail use to date has been predominately day hikers, but the role of overnight camping will have to be evaluated if through-hikers begin to use the trail and the use of additional lands will be required.

Of the 47 Natural Heritage Areas designated on the Parkway in North Carolina, 16 occur south of Asheville in the Pisgah Ledge, Plott Balsams and Balsam Mountains. The MTS will pass through 13 of the 16 Natural Heritage Areas (NHA) south of Asheville. This leaves only three NHAs south of Asheville with minimal human intrusion.

Because the Waterrock Knob Comfort Station was converted from a comfort station to an information center in 1997, it is likely that more visitors will stop and visit the Waterrock Knob Area (Lockamy, 1998). In addition, construction of the MTS through this site will provide another trail for recreational use, focusing hikers along a trail that traverses less fragile habitat and away from threatened and endangered plants/communities. Past experience has shown that without trails, hikers use an area indiscriminately (Teague, pers. obs. 1998).

Also, there are no significant additions anticipated/planned for the Balsam Gap Maintenance Area that would add to the cumulative effects of this project.

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North Carolina Department of Cultural Resources
North Carolina Natural Heritage Program, Biological Conservation Database
North Carolina Wildlife Resources Commission, Habitat Conservation Program
Southeast Archeological Center, National Park Service
State Historic Preservation Office, Archeological Database
The Eastern Band of Cherokee Indians
US Fish and Wildlife Service, Asheville Field Office

SELECTED REFERENCES

EXECUTIVE ORDERS

Executive Order 11988 (Floodplain Management)

Executive Order 11990 (Protection of Wetlands)

Executive Order 11593 (Cultural Resources)

Executive Order 12898 (Environmental Justice)

Executive Order 13186 (Migratory Birds)

NPS DIRECTOR'S ORDERS

DO-2 (Planning Process Guidelines)

DO-12 (Conservation Planning, Environmental Impact Analysis, & Decision-making)

DO-28 (Cultural Resource Management)

DO-45 (National Trails System Act)

DO-52 (Park Signage)

US FEDERAL GOVERNMENT

1916 National Park Service Organic Act, as amended

16 U.S.C. National Park Service General Authorities Act

1958 Fish and Wildlife Coordination Act, as amended

1963 Clean Air Act, as amended

1966 National Historic Preservation Act, as amended

1969 National Environmental Policy Act (NEPA)

1972 Noise Control Act, as amended

1973 Endangered Species Act, as amended

1974 Archeological and Historic Preservation Act (88 Stat. 174)

1976 General Authorities Act (90 Stat 1939)

1977 Clean Water Act, as amended

1979 Archeological Resources Protection Act

1984 Farmland Protection Policy Act

1990 Americans with Disabilities Act (ADA) (104 Stat. 327)

1990 Native American Graves Protection and Repatriation Act

1995 Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers

1998 “Trip Report on Phase I Archaeological Testing at Blue Ridge Parkway for proposed Mountains To Sea Trail Extension between Soco Gap and Balsam Gap in southwestern North Carolina,” May 18-22, 1998; SEAC Accession 1353.

1999 Section 7 Informal Consultation for Proposed Trail Construction and Maintenance Of 16 Miles of the Mountains To Sea Trail Between Balsam Gap and Oconaluftee, September 10, 1998, NPS, US Fish and Wildlife Service, Asheville, North Carolina.

NPS-77 (Natural Resources Management)

Dept. of the Interior, Departmental Manual, DM 516-NEPA Policies

APPENDIX 1
(prepared in 1999)

FEDERALLY LISTED PLANT SPECIES		
	Common Name	*Habitat*
Gymnoderma lineare (GYLI)	Rock Gnome Lichen	High elevation rock outcrops, outcrops in humid gorges, streams
Isotria medeoloides (ISME)	Small Whorled Pogonia	Open, dry deciduous woods, along streams, second growth forest with open canopy and shrub layer, sparse herb layer. Site conditions and soils vary greatly

STATE LISTED PLANT SPECIES		
Scientific Name	*Common Name*	*Habitat*
Abies fraseri (ABFR)	Fraser fir	Boreal forests and balds, mostly above 4,000' in mountains
Botrychium oneidense (BOON)	Blunt-Lobed Grape Fern	Disturbed soil in open, grassy sites at high elevations
Carex misera (CAMI)	Wretched Sedge	Rocky crevices and balds at high elevations
Delphinium exaltatum (DEEX)	Tall larkspur	Rich open woods
Disporum maculatum (DIMA)	Noding Mandarin	Rich woods, moist wooded coves over basic rocks in the mountains
*Dodecatheon meadia (*DOME)	Shooting star	Rich moist woodlands, usually on basic or circumneutral soil in mountains and plains
*Epilobium ciliatum (*EPCI)	Purple leaf willow herb	Bogs, rich damp soil at high elevations
Euphorbia purpurea (EUPU)	Glade spurge	Low woodlands, mountain glades, swampy woods, and roadsides. Needs lots of light to flower and reproduce

Habenaria peramoena (HAPE)	Purple Fringeless Orchid	Moist woods, meadows and stream banks in mountains
Helianthus glaucophyllus (HEGL)	Whiteleaf Sunflower	Mixed deciduous woods, in light gaps and along roads
Hydrotheria venosa (HYVE)	Aquatic Lichen	Spray/mist cliffs of streams/waterfalls
Juglans cinerea (JUCI)	Butternut	Rich mountainous woods
Panax quinquefolium (PAQU)	Ginseng	Rich woods (mixed hardwoods) of mountains and plains
*Pieris floribunda (*PIFL)	Fetterbush	Heath balds at high elevations.
Plagiochila corniculata (PLCO)	Liverwort	On bark of Fraser Firs in Spruce-Fir Forests, rarely on hardwoods
P*renanthes* roanensis (PRRO)	Roan Rattlesnakeroot	Wooded slopes and road banks in mountains
*Rhododendron vaseyi (*RHVA)	Pink-Shell Azalea	Bogs and Spruce Forest at high elevations
Rubus idaeus ssp. Strigosus (RUID)	Red Raspberry	Woodlands and clearings at high elevations
*Saxifraga careyana (*SACA)	Careys saxifrage	Mixed hardwood forest in mountains
Silene ovata (SIOV)	Mountain Catchfly	Forest species associated with rich soils derived from a rare rock type. Also occurs along forest edges and in light gaps
*Sphenolobopsis pearsonii (*SPPE)	Liverwort	On bark of Fraser Firs in Spruce-Fir Forests
*Stachys clingmanii (*STCL)	Clingman's Hedge-Nettle	Meadows, roadsides and clearings, often previously disturbed by fire

APPENDIX 2
(prepared in 1999)

FEDERALLY LISTED ANIMAL SPECIES		
Scientific Names	Common Names	Habitat
*Falco peregrinus (*FAPE)	Peregrine falcon	Sheer open cliffs overlooking surrounding landscape.
*Glaucomys sabrinus coloratus (*GLSA)	Northern flying squirrel	High elevation forests, mainly Spruce-Fir

STATE LISTED ANIMAL SPECIES		
Scientific Names	Common Names	Habitat
Aegolius acadicus (AEAC)	Saw-whet owl	Spruce-Fir forest or mixed hardwood/spruce for nesting.
Corvus corax (COCO)	Commen Raven	Cliffs for nesting; forest and fields at high elevation for foraging
Dendroica cerulea (DECE)	Cerulean warbler	Cove, Hardwood Forest
*Etheostoma vulneratum (*ETVU)	Wounded Darter	Streams of the Little Tennessee system
*Mesodon orestes (*MEOR)	Engraved Covert	Rock ledges and during wet weather the forest floor around rocks.
*Microtus chrotorrhinus carolinensis (*MICH)	Southern Rock Vole	Moist, rocky, woodland slopes at high elevation; mountains in southern part of range
Parus atricapillus (PAAF)		High elevation forests, mainly Spruce/Fir (breeding season only
Percina squamata (PESQ)	Olive Darter	Tennessee drainages
*Psilocnemis leucosticta (*PSLE)	Scarab Beetle	?
*Regulus safrapa (*RESA)	Golden-crowned Kinglet	Spruce-Fir Forest, hardwood forest mixed with spruce and hemlock
*Sphyrapicus varius (*SPVA)	Yellow-Bellied Sapsucker	Mature, open hardwoods with scattered dead trees
*Stygobromus carolinensis (*STCA)	Sideswimmer	Seeps, pools

*Sylvilagus obscurus (*SYOB)	Appalachian Cottontail	Dense cover of montane woods, thickets, brushland, cultivated areas
Thryomanes bewickii altus (THBE)	Appalachian Bewick's Wren	Open woodlands, upland thickets and hills, fence rows, orchards at high elevations
*Trechus balsamensis (*TRBA)	Ground Beetle	Mosses at high elevations
*Trechus rosenbergi (*TRRO)	Ground Beetle	Mosses and stones at high elevations
*Trechus subtillis (*TRSU)	Ground Beetle	Ground beneath objects, nocturnal, and hide during the day

APPENDIX 3

SUMMARY OF NATURAL FEATURES

Section No.	New Trail (LF)	Existing Trail (LF)	Land Ownership	Trailhead	Natural Heritage Areas	Plant Survey Needed	Rare Plants	Rare Anmls	Water Resources
1	8,000	0	BLRI	Orchard Parking Area	Balsam Gap	No	ISME EUPU DEEX PAQU	PSLE	None
2	5,000	0	BLRI	No	None	No	EUPU PUWI? PAQU DIMA		None
3	0	4,000	BLRI	No	None	No	EUPU PUWI? PAQU		None
4	3,500	0	BLRI	No	Woodfin Falls	Yes	HYVE PAQU PAAF EUPU	TRSU STCA COCO RESA	Woodfin Creek Woodfin Falls
5		6,000	BLRI	No	Woodfin Falls	Yes	RHVA PAQU HYVE	GLSA TRSU STCA COCO RESA AEAC PAAF	None
6	2,000	0	BLRI	No	Mt. Lyn Lowry	Yes	RHVA RUID PRRO STSP? SACA PIFL	GLSA COCO RESA TRCA? STCA PAAT? MICH AEAC	None

7	10,000	1,000	BLRI	Waterrock Knob	Mt. Lyn Lowry, Waterrock Knob	No	GYLI RHVA PAAT RUID PRRO STSP? SPPE **HIEL** **REFR**	GLSA MEOR TRRO TRBA TRSU HEBA PLCO CAMI PLPE BOON STCL STCA SACA PIFL MICH AEAC COCO RESA	Trib. to Scott Cr. Trib. to No. Fork Cr.
8	4,000	0	BLRI	No	Waterrock Knob	Yes	RHVA TRSU PAAT SPPE RUID PRRO STSP? GYLI PLCO CAMI BOON SACA PIFL **HIEL** **REFR** **HEBA**	GLSA AEAC MICH MEOR TRSU TRRO TRBA PLPE? STCL, COCO RESA	None
9	0	4,000	BLRI	No	--	Yes	PIFL SACA RHVA RUID PRRO	GLSA STSP? COCO PAAF MICH AEAC	--
10	0	10,000	BLRI	Soco Gap	Fed Cove Ridge	No	RHVA RUID DOME HEGL **CHOA**	THBE PAAF AEAC	Trib. to Soco Cr.
11	10,000	0	BLRI	Plott Balsam	--	Yes	EPCI DOME RUID RHVE? SIOV HEGL	GLSA AEAC PAAF THBE	Soco Gap Bog Jonathan Cr.

12	0	18,000	Cherokee BLRI	Big Witch	--	No	PAQU EPCI	GLSA	Wolf Laurel Br.
13	0	3,500	BLRI	No	--	No	PAQU		--
14	0	1,500	Cherokee BLRI	No	--	No	PAQU		
15	0	0	Cherokee	Unknown	--	No			
16	0	0	GRSM Cherokee	Unknown		No		PESQ ETVU	
17	0	0	GRSM	Unknown	--	No		PESQ ETVU	
Total	44,500 (8.4 miles)	41,000 (7.8 miles)							

APPENDIX 4
General Bird List*

Waterrock Knob
Black capped chickadees
Northern saw-whet owls
Common raven
Red-breasted nuthatch
Brown creeper
Winter wren
Golden-crowned kinglet
Veery
American robin
Gray catbird
Cedar waxwing
Solitary virea
Chestnut-sided warbler
Black throated green warbler
Canada warbler
Rufous-sided towhee
Song sparrow
Dark-eyed junco

Woodfin Valley OL (MP 446) and Woodfin Cascade OL (MP 446.7)
Black-billed Cuckoo
Tufted titmouse
Gray catbird
Solitary vireo
Chestnut-sided warbler
Black-throated blue warbler
Black-and-white warbler
Rufous-sided towhee
Dark-eyed junco

Mount Lyn Lowry
Common raven
Black-capped chickadee
Red-breasted nuthatch
Brown creeper
Winter wren
Golden-crowned kinglet
Veery
Solitary vireo
Chestnut-sided warbler
Black-throated blue warbler
Canada warbler
Dark-eyed junco

Heintooga Spur Road
Eastern screech owl
Great horned owl
Barred owl
Broadwinged hawk
Sharp-shinned hawk
Blackburnian warbler
Red crossbill
Common raven
Black-capped chickadee
Tufted titmouse
Red-breasted nuthatch
Brown creeper
Winter wren
Golden-corned kinglet
Veery
American robin
Gray catbird
Cedar waxwing
Solitary vireo
Northern parula
Chestnut-sided warbler
Black-throated blue warbler
Canada warbler
Rose-breasted grosbeak
Rufous-sided towhee
Dark-eyed junco

Jonathan Creek OL (MP 456.2), Plott Balsam View (MP 457.9)
Scarlet tanager
Rose-breasted grosbeak
American robin
Veery
Winter wren
Solitary vireo
Black-and-white warbler
Chestnut-sided warbler
Black-throated blue warbler
Canada warbler
Rufous-sided towhee
Dark-eyed junco

Jenkins Ridge Overlook (MP 460.8)
Yellow-bellied sapsucker
Least flycatcher
(See species for Jonathan Creek)

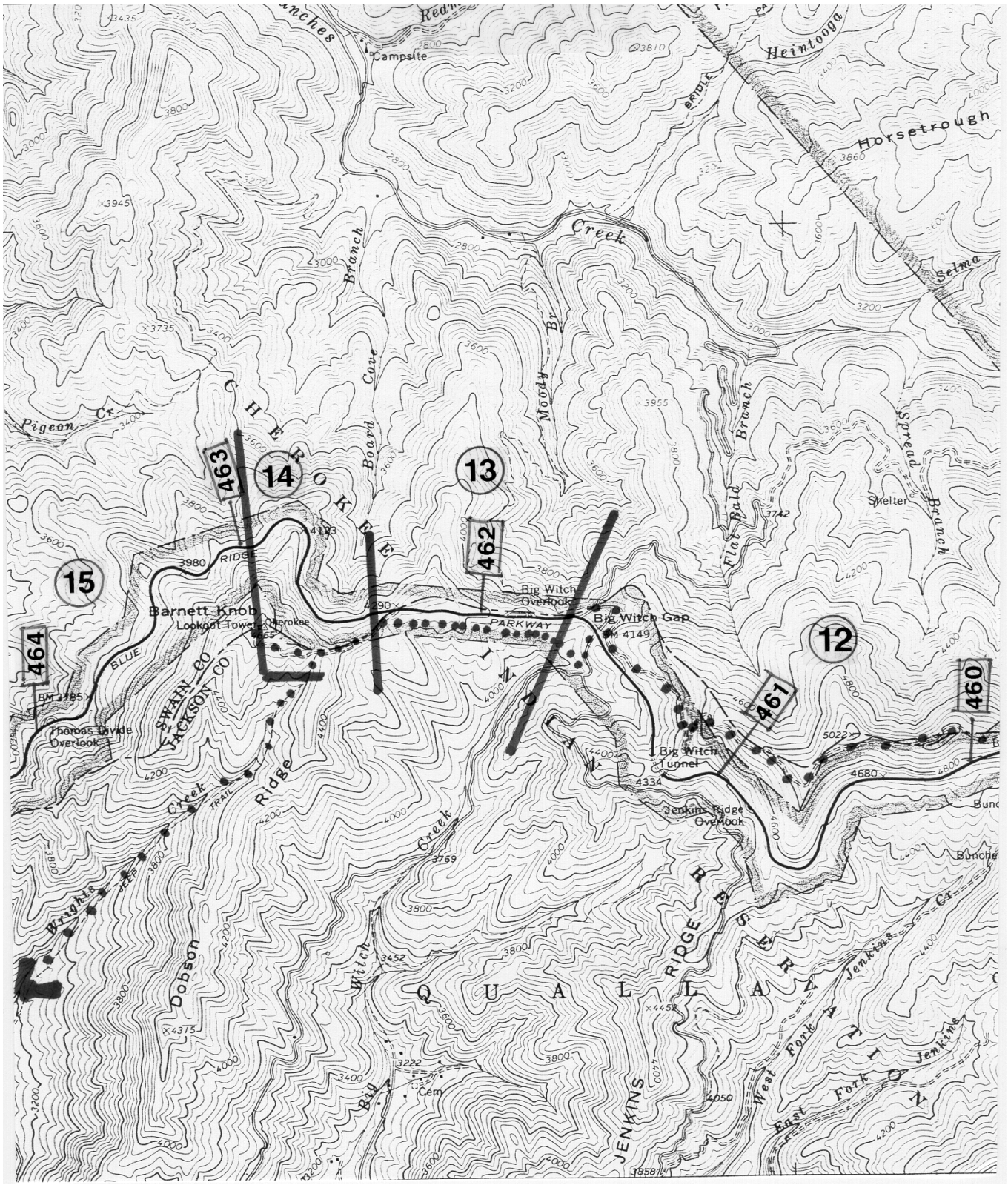
Big Witch Overlook (MP 461.9)
Great horned owl
Barred owl
Pileated woodpecker
Downy woodpeckers
Black-billed cuckoo
White-breasted nuthatch
Carolina chickadee
Tufted titmouse
Ovenbird

* Source: Simpson, Jr., Marcus B., 1992. *Birds of the Blue Ridge Mountains.* University of North Carolina Press. 354 pp.

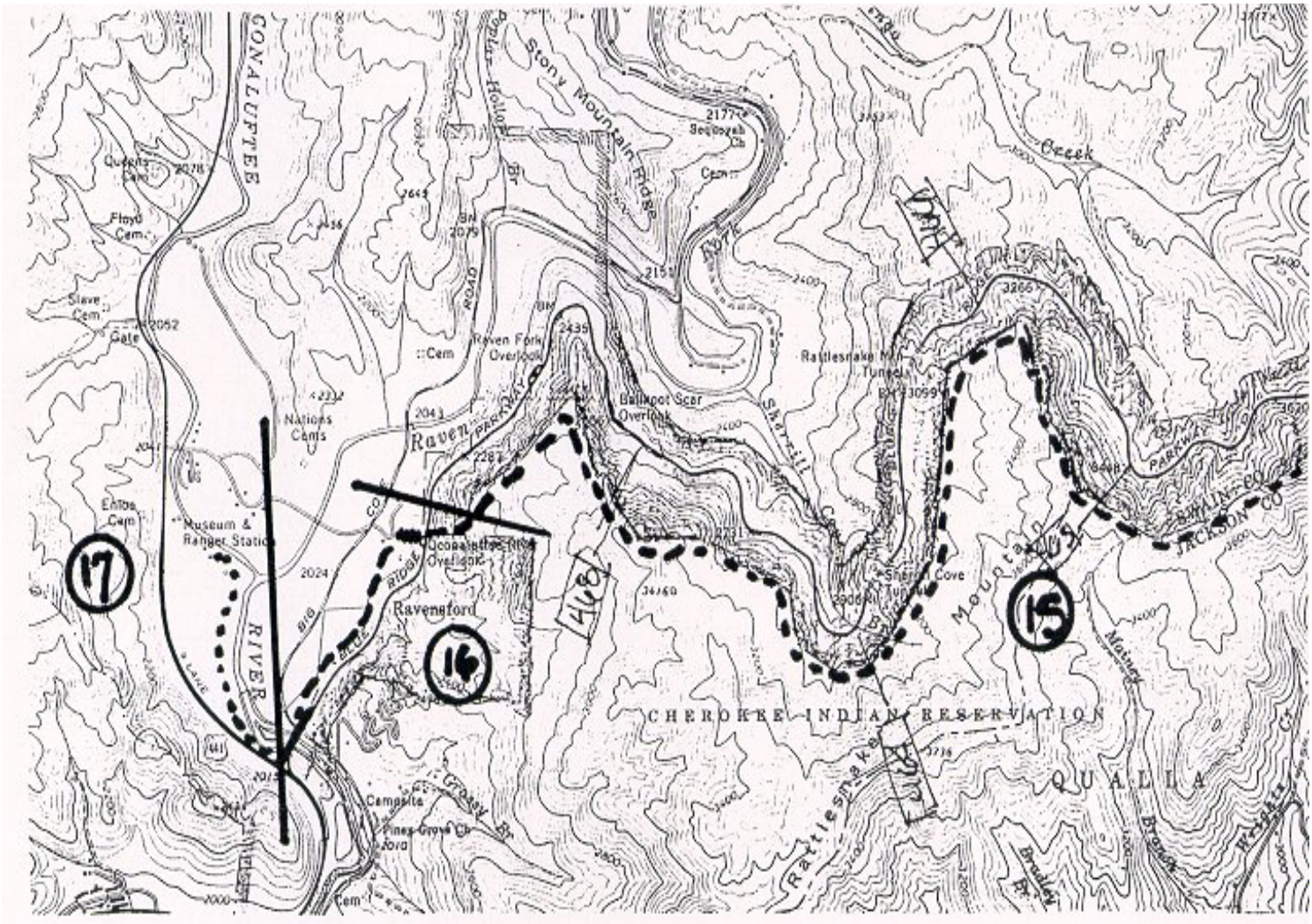
APPENDIX 5
SCHEMATIC LOCATION MAPS

(These files are in AutoCad and cannot be viewed in this document)

Bunches Bald, NC
USGS Quad - West



Smokemont USGS Quad



ACRONYMS AND GLOSSARY

A

affected environment: The existing biological, physical, cultural, social, and economic conditions of an area that are subjected to both direct and indirect changes, as a result of actions described within alternatives under consideration.

air quality: A measure of health and visibility-related characteristics of air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

alternatives: A reasonable range of options that can accomplish an agency's objectives.

aquatic species: A group of closely related and interbreeding living things, living or growing in, on, or near the water.

archeological resources: Any material remains or physical evidence of past human life or activities, which are of archeological interest, including the record of the effects of human activities on the environment. Such resources are capable of revealing scientific or humanistic information through archeological research.

B

BLRI: Blue Ridge Parkway

bollard: One of a series of posts preventing vehicles from entering an area.

C

Cherokee Indian Reservation: A Native American people formerly inhabiting the southern Appalachian Mountains from the western Carolinas and eastern Tennessee to northern Georgia, with present-day populations in western North Carolina.

Council on Environmental Quality (CEQ): The President's Council on Environmental Quality was established by the National Environmental Policy Act NEPA and is the agency responsible for the oversight and development of national environmental policy.

critical habitat: Habitat approved in the *Federal Register* as critical for a particular listed species under section 4 of the Endangered Species Act. (1) The specific areas within the geographical area occupied by the species at the time it is listed, on which are found those physical or biological features (a) essential to the conservation of the species and (b) which may require special management or protection (2) Specific areas outside the geographical area occupied by the species at the time it is listed that are considered essential to the conservation of the species.

crosscut: A path more direct than the main path; a shortcut; a course or cut going crosswise.

cultural landscape: A geographic area (including both cultural and natural resources) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

cultural resource: An aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually greater than 50 years of age and possess architectural, historic, scientific, or other technical value. By their nature, cultural resources are nonrenewable.

cumulative effects (impacts): Effects on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

D

deciduous: Shedding or losing foliage at the end of the growing season.

degradation (natural resources): Refers to negative impact(s) to natural resources or natural processes. The impact may be singular or cumulative; the extent may be local or ecosystemwide. The term degradation is used broadly and may refer to: reduction in habitat size, reduction in extent of plant populations, declining species vigor exhibited as reduced population numbers, reduced reproductive success, increased mortality rates, and/or decreased percent of available habitat utilized.

denuded: To divest of covering; make bare.

E

EA: Environmental Assessment

environmental assessment: A detailed statement required by the National Environmental Policy Act (NEPA) when an agency proposed a major action that could significantly affect the quality of the human environment.

environmental consequences: A section of an environmental assessment that is the scientific and analytic basis for comparing alternatives. This discussion includes the environmental effects of the alternatives, any adverse effects that cannot be avoided, and short-term, long-term and cumulative effects.

endangered species: Any species, which is in danger of extinction throughout all or a significant portion of its range. These species are listed by the U.S. Fish and Wildlife Service.

Endangered Species Act of 1973 (amended) (ESA): The Endangered Species Act ensures that no federal action will jeopardize the continued existence of federally listed or proposed threatened or endangered species of plant or animal.

erosion: The group of natural processes, including weathering, dissolution, abrasion, corrosion, and transportation, by which material is worn away from the earth's surface.

ESA: Endangered Species Act

exotic plants: Plant or animal species introduced into an area where they do not occur naturally; non-native species.

F

facilities: Refers to buildings, houses, campgrounds, picnic areas, visitor-use areas, operational areas, and associated supporting infrastructure such as roads, trails, and utilities.

fauna: Animals, especially the animals of a particular region or period, considered as a group.

floodplain: Land on either side of a stream or river that is submerged during floods. Typically discussed in terms of 50, 100, or 500-year events.

100-year floodplain: The land adjacent to a river corridor that would be covered by water during a 100-year flood event. A 100-year flood event has a 1% probability of occurring during any given year.

foraging: The act of looking or searching for food or provisions.

Finding of No Significant Impact (FONSI): The public document following the preparation of a final environmental assessment that reflects the agency's final decision, rationale behind the decision, and commitments to monitoring and mitigation.

flora: Plants considered as a group, especially the plants of a particular country, region, or time.

FWS: U.S. Fish and Wildlife Service

G

general management plan (GMP): The first tier plan for NPS units that provides overall broad management direction.

GPRA: *Government Performance and Results Act of 1993*

Government Performance and Results Act: one of the most recent and comprehensive of a number of laws and executive orders directing federal agencies to implement performance management systems already embraced by private industry and many local, state, and national governments.

GRSM: Great Smoky Mountains National Park

greenway: A corridor of undeveloped land, as along a river or between urban centers, that is reserved for recreational use or environmental preservation.

groundwater: All water found below the surface of the ground.

H

ha: Hectare.

headwaters: The water from which a river rises; a source.

historic district: A geographically definable area, urban or rural, possessing a significant concentration, linkage or continuity of sites, landscapes, structures, or objects, united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

hydrology: A science dealing with the properties, distribution and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

I

impacts: Effects, both beneficial and adverse, of an action on the human environment. Direct effects are those occurring at the same time and place as the action itself. Indirect effects occur later in time or are farther removed in distance from the action, yet are reasonably foreseeable.

invasive native and exotic plants: A species that takes over a new habitat where it was not previously found, often to the detriment of species, which were there before.

invertebrate species: Animals without backbones, such as an insect or mollusk.

M

microhabitat: A very small, specialized habitat, such as a clump of grass or a space between rocks.

mitigation: An activity designed to avoid, minimize, rectify, reduce or compensate the severity of, or eliminate impacts from the proposed project. A mitigation measure should be a solution to an identified environmental problem.

monitoring: To keep track of systematically with a view to collecting information.

MTS: Mountains to Sea Trail

memorandum of agreement: An arrangement between parties regarding a course of action.

museum collection: Objects, works of art, historic documents, and natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit.

N

National Environmental Policy Act of 1969 (NEPA): a law enacted on January 1, 1970 that established a national policy to maintain conditions under which humans and nature can exist in productive harmony and fulfill the social, economic and other requirements of present and future generations of Americans.

National Historic Landmark: A district, site, building, structure, landscape, or object of national historical significance, designated by the Secretary of the Interior under authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places.

National Historic Preservation Act of 1966 (NHPA): This act required federal agencies to give consideration to historic properties determined significant (properties listed on or determined to be eligible for the National Register of Historic Places) prior to expending funding for, authorizing, or licensing a federal project or permit.

National Natural Landmark Register: A program that seeks to identify and encourage the preservation of areas that illustrate the ecological and geological character of the United States.

National Park Service (NPS): An agency in the Department of the Interior responsible for protection and preservation of 384 natural and cultural units throughout the United States.

National Register of Historic Places: The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archeology, engineering, and culture kept by the National Park Service under authority of the National Historic Preservation Act of 1966.

natural resources: Features and values that include plants and animals, water, air, soils, topographic features, geologic features, paleontological resources, natural quiet, and clear night skies.

Nature Conservancy: nonprofit organization established in 1951 to preserve or aid in the preservation of natural environments.

NEPA: National Environmental Policy Act

NCWRC: North Carolina Wildlife Resources Commission

NHA: Natural Heritage Area

NHPA: National Historic Preservation Act

no action alternative: An alternative in an environmental assessment that continues current management direction. A no action alternative is a benchmark against which action alternatives are compared.

nonnative species: Species of plants or animals that do not naturally occur in a particular area and of often interfere with natural biological systems. Also known as alien, introduced, or exotic species.

O

Organic Act (NPS) – the 1916 law (and subsequent amendments) that created the National Park Service and assigned it responsibility to manage the national parks.

overlook: To look over or at from a higher place, especially so as to afford a view.

overstory: The uppermost layer of foliage that forms a forest canopy.

P

preservation (cultural resource): The act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape, or object. Work may include preliminary measures to protect and stabilize the property, but generally focuses on the ongoing preservation maintenance and repair of historic materials and features rather than extensive replacement and new work.

preservation (natural resource): The act or process of preventing, eliminating, or reducing human-caused impacts to natural resources and natural processes.

PwL: Parkway Left - when traveling south of the Parkway, anything on the left side of the road is considered “Parkway Left.”

PwR: Parkway Right - when traveling south of the Parkway, anything on the right side of the road is considered “Parkway Right.”

R

rehabilitation (cultural resources): The act or process of making possible an efficient compatible use for a historic structure or landscape through repair, alterations, and additions while preserving the portions or features which convey the historical, cultural and architectural values.

rehabilitation (natural resources): All activities conducted to improve the quality or biologic function of an impacted natural resource. The term rehabilitation connotes a less extensive process than restoration. Site impacts may preclude a full restoration but project work is undertaken to enhance the extent or function of natural processes.

Reservation: Qualla Boundary Reservation of the Eastern Band of Cherokee Indians

restoration (cultural): The act or process of accurately depicting the form, features, and character of an existing historic structure, landscape, or object as it appeared at a particular period of time, by removing modern additions and replacing lost portions of historic fabric, paint, or other elements.

restoration (natural): Work conducted to remove impacts to natural resources and restore natural processes, and to return a site to natural conditions.

revegetation: Replacement or augmentation of native plants in an area largely or entirely denuded of vegetation.

S

schematic: A structural or procedural diagram.

Section 7 Consultation: Section 7 of the Endangered Species Act requires consultation with the U.S. Fish and Wildlife Service if the habitat of a threatened or endangered plant or animal may be affected by a federally authorized action.

silt: A sedimentary material consisting of very fine particles intermediate in size between sand and clay.

Strategic Plan: a Service - wide, 5 - year plan required by GPRA (5 USC 306) in which the NPS states (1) how it plans to accomplish its mission during that time, and (2) the value it expects to produce for the tax dollars expended. Similarly, each park, program, or central office has its own strategic plan, which considers the Service - wide mission plus its own particular mission. Strategic plans serve as “performance agreements” with the American people.

surface water: Water that naturally flows or settles on top of natural landforms and vegetation, often as rivers, springs, seeps streams, lakes, ponds, and other bodies of water.

switchback: A road or trail that follows a zigzag course on a steep incline.

T

terminus: The final point; the end of the trail.

terrestrial: Living or growing on land; not aquatic

threatened species: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

TNC: The Nature Conservancy

topography: The surface features of a place or region.

trailhead: The place where a trail begins.

tributary: A stream that flows into a larger stream or other body of water.

turbidity: Having sediment or foreign particles stirred up or suspended; muddy.

U

understory: An underlying layer of vegetation, especially the plants that grow beneath a forest's canopy.

USGS: United States Geological Survey

V

vertebrate species: Animals that have a spinal cord enclosed in a backbone.

visitor experience: The perceptions, feelings, and interaction a park visitor has in relationship with the environment.

W

watershed: The region draining into a river, river system, or body of water.

wetland: Areas that are inundated by surface or groundwater with a frequency sufficient to support, under normal circumstances, vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

LIST OF AGENCIES, ORGANIZATIONS, & INDIVIDUALS TO WHOM COPIES OF THE EA WERE SENT

Congressional Offices

Honorable Charles Taylor, NC 11th District Office, Asheville, NC
Honorable Melvin L. Watt, NC 12th District Office, Greensboro, NC

Federal Agencies

Department of the Army
Army Corp of Engineers, Asheville Field Office, NC
Department of Interior
Fish and Wildlife Service, Asheville Field Office, NC
National Park Service, Great Smoky Mountains NP, Gatlinburg, TN
Department of Agriculture
Forest Service, Asheville District Office, NC
Soil Conservation Service, Waynesville District Office, NC

State Agencies

Department of Historic Resources
NC Division of Cultural Resources, Raleigh
NC Division of Archives & History, Asheville
Department of Agriculture
NC Plant Conservation Program, Raleigh
Department of Natural Resources
NC Division of Environmental Management, Raleigh
NC Natural Heritage Program, Raleigh
NC Wildlife Resources Commission, State Road
Division of Parks and Recreation
NC Parks and Recreation Department, Asheville, Jackson, and Waynesville
Department of State Clearinghouse
NC Environmental Review, Raleigh, NC

Universities/Cooperating Professionals

Appalachian State University, Boone, NC
Asheville City Mayor, Asheville, NC
Friends of the MTS, Balsam Highlands Task Force, Waynesville, NC
Eastern Band of Cherokee Indians, Cherokee, NC
Haywood County Manager, Waynesville, NC
Jackson County Commissioner, Sylva, NC
Jackson County, Office of the Sheriff
Mars Hill College, Department of Biology, Mars Hill, NC
North Carolina Nature Conservancy, Windsor, NC
Southeast Regional Office Nature Conservancy, Chapel Hill, NC
University of North Carolina, NC Botanical Garden, Chapel Hill, NC
University of North Carolina, Department of Environmental Studies, Asheville, NC
Western Carolina University, Department of Biology, Cullowhee, NC
Western North Carolina Alliance, Asheville, NC

Trail Construction and Maintenance Of 16 Miles of the Mountains To Sea Trail Between Balsam Gap and Oconaluftee, Haywood, Jackson and Swain Counties, North Carolina, Between Mileposts 443.8 and 469.3

Environmental Assessment
June 2001

NOTE TO REVIEWERS AND RESPONDENTS

The Blue Ridge Parkway, a unit of the National Park Service, has prepared an environmental assessment (EA) to evaluate the direct, secondary and cumulative environmental consequences of constructing and maintaining 16 miles of the Mountains-To-Sea Trail between Balsam Gap and Oconaluftee (Mileposts 443.8 and 469.3) on Blue Ridge Parkway lands. National Park Service guidelines for compliance with the National Historic Preservation Act and National Environmental Policy Act require an analysis of potential impacts on the proposed activities on historic resources and the human environment and public review of proposed actions and impact analysis.

By this notice the Blue Ridge Parkway is providing the public an opportunity to respond and comment on the trail proposal and environmental assessment. If you would like to receive a copy of the EA please contact Suzette Ramsey, Environmental Compliance Specialist, at (828) 271-4779 ext. 219. The EA can also be printed from this site as a .pdf file.

If you wish to comment on the environmental assessment, you may mail comments to the name and address below. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. **If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment.** We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Please Address Comments to:
Superintendent
Attn: Mountains To Sea EA
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

RESPONSES DUE JULY 16, 2001